

Descriptions of North American HYMENOPTERA. in the Collection of the
Entomological Society of Philadelphia.

BY E. T. CRESSON.

Fam. EVANIIDÆ.

Genus **FŒNUS**, Fabr.

1. **F. occidentalis**, n. sp.

Black, thorax rugose, third and fourth segments of the abdomen ferruginous, ovipositor long, valves tipped with white.

Female.—Head black, somewhat shining; face and cheeks slightly silvery-sericeous; antennæ black, tinged with piceous beneath. Thorax black, opaque, rather roughly and confluent punctured, mesothorax transversely rugose, especially on the sides; metathorax scabrous. Wings hyaline, nervures and stigma black. Legs black, the anterior pair and the intermediate tibiæ at base tinged with piceous; the anterior tibiæ at base whitish, the posterior tibiæ and their tarsi within near their base with a pale spot. Abdomen long and slender, black; the second, third and fourth segments ferruginous; ovipositor longer than the body, ferruginous, valves black, tipped with white. Length 7 lines; * expanse of wings 8 lines.

Variety ♀.—Has the base of the intermediate tibiæ white and the basal joint of the posterior tarsi with a broad white annulus; the sides of the fifth segment of the abdomen are tinged with ferruginous.

Hab.—Rocky Mountains, Colorado Territory. Two specimens. From the Committee on Collecting Fund, (as well as all other species described in this paper from this locality).

Seems to be closely allied to *F. jaculator* Linn., of Europe, which I have not seen. The mandibles have each a very strong, acute, basal, rufous tooth within, as has been observed in *jaculator* and several other species.

2. **F. perplexus**, n. sp.

Black; thorax punctured, not rugose; second, third and fourth segments of abdomen ferruginous; ovipositor long, valves tipped with white.

Female.—Black. Head somewhat shining; antennæ slightly piceous beneath towards the tip. Thorax opaque; mesothorax sprinkled

* In giving the length of the species described in these papers, the ovipositor is not included.

rather sparsely with distinct punctures, which are confluent in front of the scutellum; metathorax roughly punctured. Wings hyaline, nervures black. Legs black, all the tibiae at base with an obscure whitish spot, indistinct on the posterior pair. Abdomen long and slender, black, the second, third and fourth segments ferruginous, the fourth partly blackish; ovipositor longer than the body, ferruginous, valves black, their tips white. Length 5—6 lines; expanse of wings 6—7 lines.

Hab.—Rocky Mountains, Colorado Territory. Four ♀ specimens.

Closely resembles the preceding species, but is smaller, the thorax above has the punctures distinct and somewhat sparse, while *occidentalis* has the punctures rough and confluent, and the sides of the mesothorax transversely rugose; otherwise the two species agree.

3. **F. montanus**, n. sp.

Black, half of the second, the third and part of the fourth segment of the abdomen rufous; ovipositor very short.

Female.—Black; tip of the antennæ beneath testaceous; thorax without punctures, minutely shagreened; metathorax roughly punctured. Wings slightly tinged with fuliginous; nervures and stigma black. Legs black; anterior femora at base, apex of all their tibiae within and all the tarsi more or less tinged with pale rufous; posterior femora beneath with a rufous stripe near the tip. Abdomen black, the apical half of the second, the whole of the third and a part of the fourth segments rufous; ovipositor very short, about 2 lines in length, pale rufous, valves black. Length 5 lines; expanse of wings 6 lines.

Hab.—Rocky Mountains, Colorado Territory.

Distinct from all other species known to me, by its shorter and much more robust form; the abdomen is not so much compressed and the segments are shorter in proportion to the length of the abdomen, than in the other species.

4. **F. tarsatorius**, Say.

Fœnus tarsatorius Say, Long's Second Expedition, ii, p. 321.

This species seems to be closely allied to *F. Barnstonii* Westw., from Hudson's Bay, and having before me ten ♀ specimens of Say's species, it would perhaps be useful to give here a more detailed description of it, which may serve to draw more closely the dividing line between the two species. I have not seen any males of this species.

Female.—Black, subopaque; face, cheeks and the thorax have a more or less distinct silvery-sericeous appearance in certain lights; mandibles, except base and apex, yellowish-ferruginous; antennæ blackish-piceous above and rufo-piceous beneath, sometimes the basal joint beneath is rufous, and the joints towards the tip are also sometimes rufous; neck long; thorax roughly and confluent punctured, somewhat transversely rugose above; tegulæ and tubercles mostly pale rufous, sometimes piceous; wings hyaline and beautifully iridescent; the two anterior pairs of legs are pale rufous, base and tips of their tibiæ, and the base of their tarsi whitish, their femora sometimes obfuscated; the anterior and intermediate coxæ are piceous, the anterior pair sometimes rufous, posterior pair always black and rugose; posterior legs black, their trochanters rufous, their tibiæ and tarsi near the base white, the latter sometimes reduced to a dot or subobsolete; abdomen long and slender, tip of the second and third segments on each side broadly rufous, sometimes the tip of the fourth segment is obscurely so; in two specimens the rufous coloring is indistinct on the second and third segments; ovipositor about as long as the body, fulvous, valves black, tipped with white.

Hab.—Massachusetts. Mr. James Ridings.

5. *F. incertus*, n. sp.

Black; second, third and fourth segments of the abdomen each with a ferruginous spot on each side at base; ovipositor very short.

Female.—Black; antennæ slightly tinged with piceous beneath towards the tip. Thorax dull black, without distinct punctures, minutely shagreened; metathorax roughly punctured. Wings obscure hyaline, nervures and stigma black. Legs black, the two anterior pairs with the base of their tibiæ reddish. Abdomen black, apex much broader than usual; sides of the second, third and fourth segments at tip, ferruginous; ovipositor very short, about one line in length, ferruginous, valves black. Length $4\frac{1}{2}$ lines; expanse of wings 5 lines.

Male.—Resembles the female, but the abdomen is more slender, all the tarsi, the two anterior pairs of femora and the posterior femora at base, more or less pale ferruginous.

Hab.—Rocky Mountains, Colorado Territory.

This appears to agree very well with the description of *F. assectator* Linn., of Europe, with the exception of the coloring of the legs.

Genus **AULACUS**. Jurine.1. **A. rufitarsis**. n. sp.

Black; abdomen and tarsi rufous.

Female.—Head black; cheeks, vertex, occiput and mandibles polished; face subopaque, slightly pubescent; antennæ longer than the head and thorax, black. Thorax black, gibbous, deeply and transversely wrinkled above, the furrows apparently impunctured; scutellum more finely wrinkled and having two short longitudinal impressions, close together, on the disk; metathorax rugose. Wings hyaline, costa fuliginous, nervures and stigma black, the second transverse nervure almost entirely obliterated. Legs black; femora polished; coxæ rugose; posterior tibiæ flattened and having a few large confluent punctures exteriorly; tarsi rufous, their claws black, sometimes the anterior tarsi are blackish, and in one specimen the two anterior pairs of legs are rufo-piceous. Abdomen bright rufous, polished, impunctured, extreme base black; ovipositor rather longer than the body, yellowish, valves black. Length 5 lines; expanse of wings 8 lines.

Hab.—Rocky Mountains, Colorado Territory.

2. **A. stigmaterus**. n. sp.

Black; the first and second abdominal segments rufous; legs in most part pale fulvous.

Female.—Head black, cheeks, vertex, occiput and mandibles polished, the face slightly pubescent; the anterior margin of the clypeus and a large spot on the mandibles, pale testaceous; antennæ longer than head and thorax, black, reddish at tip. Thorax black, gibbous, rather deeply and transversely wrinkled above, the furrows apparently impunctured; pleura not so coarsely rugose; metathorax coarsely rugose. Wings hyaline, nervures and stigma fuscous; the extreme apex and a subtriangular mark extending from the stigma to the radial nervure at the junction between the marginal and the first submarginal cells, fuscous; posterior half of the second transverse nervure obliterated. Legs pale fulvous, the tarsi paler, all the coxæ and trochanters and the posterior femora except extreme base and apex black, the posterior tibiæ slightly obfuscated. Abdomen black, polished, impunctured; the peduncle and the third and following segments black, the first and second segments being bright rufous; ovipositor rather longer than the body, fulvous, valves black. Length 5 lines; expanse of wings 8 lines.

Hab.—New Jersey. E. T. Cresson.

Seems to be closely allied to *A. Abbottii* Westw., but is much smaller and somewhat differently colored.

Fam. ICHNEUMONIDÆ.

Gen. ICHNEUMON, Linn.

BLACK SPECIES.

Section 1.—Scutellum and abdomen black.....	Sp. 1—13
“ 2.—Scutellum white, abdomen black.....	Sp. 14—22
“ 3, a. Scutellum pale, or with pale markings; abdomen black, terminal segment more or less white.....	Sp. 23—24
“ b. Scutellum ditto: abdomen black, tip of first segment more or less white.....	Sp. 25—27
“ c. Scutellum ditto: abdomen black, apex fulvous.....	Sp. —28

YELLOW, RED AND BLACK SPECIES.

“ 4.—Scutellum ditto; abdomen tricolored—black, red & white or yellow.....	Sp. 29—31
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YELLOW AND BLACK SPECIES.

“ 5.—Scutellum pale; abdomen black, with the apex and in general the middle also, banded or spotted with yellow or white.....	Sp. 32—34
“ 6.—Scutellum pale; abdomen black, banded with yellow, the apex always black.....	Sp. 35—38

RED AND BLACK SPECIES.

“ 7. a. Scutellum pale; thorax black; abdomen red or red and black.....	Sp. 39—46
“ b. Scutellum yellow, yellowish-red, or red; thorax more or less red; abdomen red or red and black.....	Sp. 47—63
“ 8.—Scutellum black, abdomen red or red and black.....	Sp. 64—73
“ 9.—Scutellum yellow; abdomen red or red and black, apex white.....	Sp. 74—75

SECTION 1.

1. *Ich. Maurus*. n. sp.

Black; antennæ with a broad white annulus; wings dark fuscous; central area of metathorax rotundate, moderate.

Female.—Black, opaque; head with very narrow pale orbits above the antennæ; clypeus polished, with a rounded impression on each side; antennæ about half the length of the body, black, the 9th to 17th joints white above, spotted beneath with black, apical half involute, flattened toward the tip and brownish-sericeous beneath. Thorax closely punctured; scutellum flat, polished, with a few scattered punctures;

metathorax scabrous, opaque, the elevated lines sharply defined, the central area moderate, rotundate. Wings dark fuscous, with a rather strong violaceous reflection; nervures and stigma black; areolet 5-angular or subtriangular. Legs black, anterior tibiæ pale in front. Abdomen elongate-subovate, opaque black, slightly tinged with blue, densely and minutely punctured; the first segment broad, bilineated; basal foveæ of the second segment deep and transverse; apical segments more smooth and somewhat shining; ovipositor not exerted. Length 9 lines; expanse of wings 16 lines.

Hab.—Virginia. Dr. Thos. B. Wilson.

2. *Ich. Orpheus*. n. sp.

Black; antennæ with a broad white annulus; wings fuscous, clearer at base; central area of metathorax large, quadrate, transverse.

Female.—Black; the head with the frontal orbits above the antennæ, interrupted at the summit of the eyes, white; antennæ more than half the length of the body, black, with the 10th to 18th joints pure white above, apex slightly involute. Thorax closely punctured, somewhat shining; mesothorax in front with an impressed line on each side; a short line beneath the wings and sometimes one in front, white; scutellum slightly convex, deeply impressed in front; metathorax closely and confluent punctured, the elevated lines not well defined, the central area large, quadrate, somewhat transverse, rather smooth and shining. Wings fuscous, clearer at base, slightly violaceous; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular or subtriangular, slightly oblique. Legs black, tips of the anterior femora and their tibiæ on the inner side, whitish. Abdomen blue-black, subopaque, densely and finely punctured, basal segment broad, finely aciculate and bilineated; basal foveæ of the second segment deep and transverse; apical segments almost smooth, shining; ovipositor not exerted. Length 9 lines; expanse of wings $15\frac{1}{2}$ lines.

Hab.—Pennsylvania. E. T. Cresson.

Closely resembles *Ich. Maurus*, but differs by the head being broader, the metathorax much smoother and shining, the quadrate central area, the clearer wings, and the stronger punctation of the abdomen, the apex of which is smooth and shining.

3. *Ich. Viola*. n. sp.

Black; antennæ with a broad white annulus; wings deep violaceous; central area of a metathorax somewhat conical, small.

Female.—Black, shining, closely punctured; head with narrow whitish orbits; clypeus polished, with a rounded, well impressed fovea on each side; antennæ rather short, black, the 10th to 18th joints white above, the apical half involute, flattened toward the tip and brownish-sericeous beneath. Thorax with a longitudinal, slightly impressed line on each side anteriorly; scutellum slightly convex, polished; metathorax deeply and confluent punctured, clothed with a short pale pubescence, the elevated lines well defined, the central area small and somewhat conical, almost smooth and rather indistinct. Wings dark fuscous, with a deep violaceous reflection, nervures and stigma black, areolet 5-angular or subtriangular, slightly oblique. Legs black, the anterior tarsi in front whitish. Abdomen black, with a faint tinge of blue, shining, minutely punctured; first segment broad, punctured; basal foveæ of the second segment deep, transverse, and somewhat oblique; apical segments smooth and polished; ovipositor not exerted. Length 8 lines; expanse of wings 14 lines.

Hab.—Pennsylvania. E. T. Cresson.

This fine species closely resembles *Ich. Orpheus*, but is distinguished at once by the different sculpture of the metathorax and the deep violaceous wings.

4. *Ich. saucius*. n. sp.

Black; antennæ with a broad white annulus; wings fuscous; central area of metathorax large, rounded in front and indented behind.

Female.—Black, shining, closely punctured; clypeus with large punctures and a large rounded fovea on each side; antennæ short, slightly involute at tip, the 9th to 17th joints white above and beneath, beyond this annulus the joints are rufous beneath. Scutellum flat, polished, with a few scattered punctures; metathorax strongly and somewhat confluent punctured, the elevated lines tolerably well defined, the central area large, slightly elongate, rounded in front and deeply indented behind. Wings fuscous, marginal cell darker; nervures and stigma black; areolet 5-angular. Legs black, shining, the anterior tibiae and tarsi in front piceous. Abdomen elongate, densely punctured, subopaque, smooth and shining towards the apex; basal segment finely

aciculate, bilineated; basal foveæ of the second segment small; ovipositor not exerted. Length 7 lines; expanse of wings 12 lines.

Hab.—Pennsylvania. E. T. Cresson.

Allied in form and color to the preceding species, but is smaller, the antennæ much shorter, and the sculpturing of the metathorax is very different.

5. *Ich. Afer*, n. sp.

Black; antennæ with a yellowish-white annulus; wings subhyaline; central area of metathorax large and quadrate.

Female.—Deep black, shining, closely and finely punctured; antennæ two-thirds as long as the body, porrect, the 11th to 16th joints yellowish-white, basal joint robust; middle of the face just beneath the antennæ prominent. Scutellum slightly convex; metathorax finely scabrous, the elevated lines distinct, the central area large, quadrate, slightly transverse. Wings subhyaline, tinged with fuliginous and having a slight violaceous reflection; nervures and stigma blackish; areolet 5-angular or subtriangular. Legs black, the anterior tibiæ and all the tarsi at tips piceous. Abdomen robust, shining, finely punctured; petiole slender; the first segment broad, finely aciculate; basal foveæ of the second segment indistinctly impressed; ovipositor not exerted. Length $5\frac{1}{2}$ lines; expanse of wings 9 lines.

Hab.—Illinois. Dr. Samuel Lewis.

Closely allied to *Ich. malacus* Say, but is smaller and with clearer wings. I have before me 14 specimens of *malacus*, all of which have the central area of the metathorax large and quadrate, and the wings dark fuscous with a rather strong violaceous reflection. Length $6\frac{1}{2}$ — $7\frac{1}{2}$ lines; expanse of wings 12—13 lines.

6. *Ich. ater*, n. sp.

Black; antennæ with a white annulus; wings subhyaline; central area of metathorax large, subquadrate.

Female.—Black, subopaque; head with narrow white frontal orbits not reaching the clypeus which is shining and having a rather deep rounded fovea on each side; antennæ short, flattened towards the tip and slightly involute, the 8th and 14th joints white. Thorax finely punctured, subopaque; a minute white spot on each side in front of the tegulæ; scutellum flat, triangular, polished, distinctly punctured; metathorax finely scabrous, the elevated lines tolerably well defined and

shining, the central area large, subquadrate, rather smooth. Wings subhyaline, faintly tinged with fuliginous; nervures blackish, stigma piceous; areolet 5-angular, almost triangular. Legs black, the anterior tibiæ in front pale. Abdomen elongate, subopaque, very finely and densely punctured; first segment rather broad, bilineated and finely aciculate; basal foveæ of the second segment deep, transverse and somewhat oblique; apical segments smoother and shining; ovipositor not exerted. Length 7 lines; expanse of wings 11 lines.

Hab.—New York (Mr. James Angus); Illinois (Dr. Saml. Lewis).

7. *Ich. cincticornis*, n. sp.

Black; antennæ with a broad white annulus; wings fuliginous; central area of metathorax large, quadrate.

Female.—Black, closely punctured; antennæ more than half the length of the body, black, the 9th to 17th joints white above and beneath. Thorax opaque, scutellum convex, strongly punctured; metathorax confluent punctured, the elevated lines sharply defined, the central area large, quadrate. Wings tinged with fuliginous; nervures and stigma blackish; areolet 5-angular. Legs black, the anterior tibiæ in front yellowish. Abdomen elongate, rather slender, subopaque, densely and finely punctured, apical segments smooth and shining; the basal foveæ of the second segment deep and oblique; ovipositor yellow, exerted about one line. Length $6\frac{1}{2}$ lines; expanse of wings 10 lines.

Hab.—Pennsylvania. Mr. Chas. A. Blake.

Resembles *Ich. ater*, but the antennæ are longer and more slender, and the white annulus broader; the head is entirely black, the central area larger and quadrate and the areolet of the superior wings is 5-angular and not subtriangular.

8. *Ich. Blakei*, n. sp.

Black; antennæ with a broad white annulus; wings blackish-fuscous; central area of metathorax obsolete.

Male.—Head black, the clypeus and mandibles shining, clothed with short black pubescence; palpi black; antennæ porrect, three-fourths the length of the body, black, the 8th to 18th joints pure white, the 8th and 15th to 18th joints spotted beneath with black. Thorax black, closely punctured; mesothorax in front with a deeply impressed longitudinal line on each side, between which there is a longitudinal carina more distinct on the extreme front; scutellum convex, black, very

deeply impressed in front and connected with the mesothorax on each side by a sharp carina; metathorax scabrous, opaque black, the elevated lines broken and indistinct, the central area obsolete, the lateral tubercles prominent. Wings ample, blackish-fuscous, with a slight violaceous gloss; areolet 5-angular, the exterior nervure of which has a small hyaline spot on its middle, the cubital nervure and the second recurrent nervure, near the areolet, have also a small hyaline spot. Legs black, shining, the anterior femora with a whitish spot at tip and their tibiæ a whitish line on the inner side. Abdomen elongate, slender, black with a slight tinge of blue; the basal segment elongate, with two well defined carinæ extending from the angle forward on the petiole, on each side of the angulation a minute tubercle; the first and second segments roughly punctured, the latter having the basal foveæ transverse and rather deep; the fourth and following segments polished; venter black, shining. Length 9 lines; expanse of wings $15\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

I dedicate this very distinct and elegant species to my friend Mr. Charles A. Blake of Philadelphia.

9. *Ich. flavicornis*, n. sp.

Black, opaque; antennæ orange-yellow; wings dark fuscous, with a strong æneous reflection; central area of metathorax large, subquadrate, transverse.

Male.—Opaque deep black; head with the frontal orbits yellow, sometimes subobsolete or wanting; antennæ two-thirds the length of the body, orange-yellow, with the extreme base and apex blackish, scape deep black. Thorax closely punctured, with a rather deep indentation on each side of the mesothorax in front; scutellum convex, punctured, somewhat shining, deeply impressed in front and connected to the mesothorax on each side by a sharply defined carina, metathorax scabrous, the elevated lines tolerably well defined, the central area rather large and transverse. Wings dark fuscous, with a strong æneous reflection; nervures and stigma black; areolet 5-angular or subtriangular. Legs black, the anterior pair tinged with pale rufous on the inner side. Abdomen elongate, opaque black, immaculate, densely and finely punctured; basal segment finely aciculate, bilineated; basal foveæ of the second segment rather large and deep, more coarsely aciculate; beneath black. Length 9 lines; expanse of wings $15\frac{1}{2}$ lines.

Hab.—New York. Mr. James Angus.

10. *Ich. montanus*. n. sp.

Blue-black; wings fusco-hyaline; central area of metathorax large, quadrate, transverse.

Male.—Entirely blue-black; the head and thorax having a slight tinge of green, rather densely punctured; antennæ almost as long as the body, black, opaque. Scutellum convex, deeply impressed in front and connected with the mesothorax on each side by a sharp carina; metathorax densely and confluent punctured, the elevated lines well defined, the central area large, quadrate, transverse. Wings fusco-hyaline, darkest on the apical margin and having a slight violaceous reflection; nervures black; areolet 5-angular. Legs blue-black, the inner side of the anterior tibiæ and tarsi and a spot at the tips of the anterior femora, whitish. Abdomen elongate, rather slender, densely punctured; basal segment somewhat shining, deeply tinged with blue, bilineated and finely aciculate; apical segments smoother. Length 7 lines; expanse of wings $11\frac{1}{2}$ lines.

Female.—Resembles the male, except that the color is more bluish, the antennæ are shorter and the 11th to 14th joints above are white; the ovipositor is yellowish and exerted about one line.

Hab.—Rocky Mountains. Colorado Territory. 3 ♂ and 2 ♀ specimens.

11. *Ich. pedalis*. n. sp.

Black; wings fusco-hyaline; legs fulvous; central area of metathorax transverse.

Male.—Black, densely punctured; antennæ brown-black, more than half the length of the body. Thorax shining; scutellum rather convex, punctured shining; metathorax scabrous, opaque, the elevated lines well defined, the central area rather large, transverse, the posterior margin bent inwards. Wings fusco-hyaline, with a slight violaceous reflection; nervures and stigma black; areolet 5-angular or subtriangular. Legs fulvous, their coxæ, trochanters and the extreme tips of the posterior tibiæ, black. Abdomen opaque, densely punctured; basal foveæ of the second segment deep and oblique. Length $6\frac{1}{2}$ lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Rocky Mountains. Colorado Territory.

12. *Ich. Ormenus*. n. sp.

Black, shining; wings subhyaline; legs fulvous; central area of metathorax large, elongate-subquadrate.

Female.—Black, closely punctured, clypeus shining, with a deeply

impressed point on each side, mandibles and palpi piceous; antennæ short, involute, fusco-sericeous. Thorax somewhat shining, finely punctured; tegulæ rufo-testaceous; scutellum flat, smooth and polished; metathorax densely and somewhat roughly punctured, the elevated lines well defined, the central area large, elongate-subquadrate. Wings subhyaline, faintly stained with fuscous; nervures fuscous, testaceous at base, stigma fulvous; areolet 5-angular. Legs fulvous, the coxæ, the posterior femora at tip and their tarsi black. Abdomen elongate, rather slender, densely and finely punctured, the apical segments smooth and shining; the first segment bilineated, finely aciculate; basal foveæ of the second segment deep; beneath black; ovipositor not exerted. Length $6\frac{1}{2}$ lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Pennsylvania. E. T. Cresson.

13. *Ich. semilævis*. n. sp.

Black; antennæ with a narrow white annulus: wings subhyaline; femora fulvous; central area of metathorax quadrate.

Female.—Black; head shining, closely punctured; face short, a rounded carina beneath the insertion of the antennæ; narrow orbits above the antennæ and a spot at the summit of the eyes, white; clypeus with a few large punctures, its anterior margin and the mandibles toward their tips, rufo-piceous; antennæ short, involute, the joints submoniliform, black, the 10th to 16th joints white above, beneath towards the tip they are brown-sericeous and flattened, basal joint robust, shining black. Thorax polished, sparsely punctured, the disk above as well as the scutellum almost destitute of punctures, being very smooth and shining; scutellum flat; metathorax densely and rather roughly punctured, the elevated lines tolerably well defined, the central area quadrate, not very distinct. Wings almost hyaline, faintly stained with fuliginous, nervures and stigma black; areolet 5-angular. Legs black, shining; all the femora and the anterior and intermediate tibiæ and tarsi rufous, the latter obfuscated at tips. Abdomen black, tinged with purple, polished towards the tip; petiole short; the 1st segment bilineated, finely aciculate; basal foveæ of the second segment deep and oblique, between these foveæ the surface is longitudinally rugose, the rugosity extending down the middle of the segment almost to its tip; the seventh segment sulcate above. Length $6\frac{1}{2}$ lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

Resembles *Ich. Ormenus* in size and form, but otherwise quite distinct.

SECTION 2.

14. *Ich. vittifrons*, n. sp.

Black; face whitish, with a broad black stripe down its middle; scutellum white; wings fuscous, hyaline at base; central area of metathorax indistinct.

Male.—Head black, the face below the antennæ, clypeus, orbits not reaching the vertex behind, and the middle of the mandibles, white; the face with a broad black vitta extending from the base of the antennæ to the anterior margin of the clypeus; antennæ porrect, more than half the length of the body, black, the basal joint whitish beneath. Thorax black, shining, rather sparsely punctured, a well impressed longitudinal line on each side of the mesothorax in front, which become obsolete before reaching the disk; tegulæ, a sutural line before and a short line beneath the wings, white; scutellum rather flat, white, with a deep impression at base and connected to the mesothorax on each side by a sharply defined carina; behind the scutellum a short transverse white line; metathorax confluent punctured, the elevated lines indistinct, the central area small, subobsolete, its shape indistinct. Wings broad, dark fuscous, with a strong violaceous reflection, the base especially of the posterior pair, hyaline; nervures black, areolet 5-angular or subtriangular, rather oblique. Legs black, the anterior coxæ beneath, a spot on the intermediate coxæ beneath, the anterior and intermediate femora exteriorly at base, their tarsi and all their tibiæ exteriorly, white. Abdomen elongate, black, closely punctured, shining, especially at tip; basal segment deeply punctured, the peduncle rather short; basal foveæ of the second segment deep and transverse; beneath, black. Length 9 lines; expanse of wings 15 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

15. *Ich. audax*, n. sp.

Black; face, scutellum and legs in part, yellowish-white; wings subhyaline; central area of metathorax transverse.

Male.—Head black, the face beneath the antennæ, frontal orbits not reaching the vertex, clypeus, a spot on the mandibles, and the palpi, yellowish-white; antennæ two-thirds the length of the body, black, the basal joint beneath whitish. Thorax black, finely and confluent punctured; tegulæ except at base, a sutural line before and a short line

beneath the wings. white; scutellum convex, profoundly impressed in front, entirely whitish; metathorax roughly punctured, the elevated lines distinct, the central area transversely subquadrate, its margins smooth and shining. Wings subhyaline, tinged with fuliginous, with a faint violet reflection; nervures and stigma black; areolet 5-angular. Legs black, anterior pair with a spot on their coxæ beneath, and their tibiæ and tarsi white; intermediate pair with the tips of their trochanters and femora, and their tibiæ and tarsi white; posterior pair with a small spot at the base of their femora within, the basal two-thirds of their tibiæ and their tarsi also white; all the tarsal claws black. Abdomen entirely opaque black; basal segment bilineated, finely aciculate, as is also the base of the second segment, the foveæ of which are large and deeply impressed; beneath black. Length $7\frac{1}{2}$ lines; expanse of wings $12\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

16. *Ich. caliginosus*, n. sp.

Black; antennæ with a white annulus; scutellum white; wings fusco-hyaline; central area of metathorax large, quadrate and transverse.

Female.—Black, subopaque, densely and finely punctured; clypeus shining, with a few large punctures; antennæ half the length of the body, black, the 10th to 15th joints white above. Thorax densely and confluent punctured, with an abbreviated impressed line on each side of the mesothorax in front; scutellum rather flat, smooth and shining, with a large white spot occupying nearly its whole surface and slightly indented posteriorly; metathorax scabrous, the elevated lines well defined, the central area large and transversely quadrate. Wings fuscous, nervures black, stigma piceous, areolet 5-angular. Legs shining black, inner side of the anterior tibiæ and tarsi whitish. Abdomen entirely black; the first segment broad and finely aciculate, the peduncle slender; basal foveæ of the second segment deep and oblique; apical segments rather smooth and shining; ovipositor subexserted, yellowish. Length 6 lines; expanse of wings 11 lines.

Hab.—Rocky Mountains, Colorado Territory.

17. *Ich. Bronteus*, n. sp.

Black: the face, scutellum and legs in part, yellow; wings subhyaline; central area of metathorax rather large, subquadrate.

Male.—Black, subopaque, closely punctured; the face beneath the

antennæ, frontal orbits, clypeus, mandibles except base and apex, and the palpi, yellow; antennæ black, more than half the length of the body, porrect, the basal joint beneath yellow. Thorax somewhat shining above, clothed with short fuscous pubescence, an abbreviated impressed line on each side of the mesothorax in front; the tegulæ, a short line in front and another beneath the wings, yellow; scutellum convex, smooth, yellow, slightly pilose; metathorax scabrous, the elevated lines well defined, the central area rather large, subquadrate. Wings subhyaline, faintly fuliginous, and with a brassy reflection; nervures fuscous, stigma fulvous; areolet 5-angular. Legs yellow, the two anterior pairs of coxæ, except a spot beneath, their femora posteriorly and the posterior coxæ, femora and tibiæ at tip, black. Abdomen long and rather slender, subopaque, densely and finely punctured; the basal segment bilineated and finely aciculate; basal foveæ of the second segment deep; on each side of the third segment at base a small obscure testaceous spot; apical segments smoother; beneath, the second, third and part of the fourth segments are yellowish. Length 8 lines; expanse of wings 12 lines.

Hab.—Pennsylvania. E. T. Cresson.

18. *Ich. tenebrosus*, n. sp.

Black: face and scutellum yellow: legs fulvous; wings hyaline: central area of metathorax quadrate, elongate.

Male.—Head black, the face beneath the antennæ, frontal orbits, clypeus, mandibles except base and apex, and the palpi, yellow; antennæ more than half the length of the body, black, the basal joint beneath yellow. Thorax black, shining, closely punctured; tegulæ, a short line before and another beneath the wings, yellow; scutellum rather flat, yellow, smooth and shining; metathorax roughly punctured, opaque black, the elevated lines well defined, the central area longitudinally quadrate. Wings hyaline; nervures fuscous, testaceous at base, the stigma fulvous; areolet 5-angular. Legs pale fulvous, the anterior and intermediate coxæ black above, yellow beneath, the posterior pair entirely black, as well as the extreme tips of the posterior tibiæ; posterior femora of a more deeper fulvous; tips of tarsi blackish. Abdomen elongate, rather slender, minutely punctured, opaque black, slightly shining towards the apex; first segment bilineated and finely aciculate; basal foveæ of the second segment oblique; on each side of the third segment at base an obscure ferruginous spot; beneath black, the second

and third segments pale testaceous, obfuscated on each side. Length $6\frac{1}{2}$ lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

19. *Ich. pullatus*, n. sp.

Black; face and scutellum white, the former with a black stripe down its middle; wings clear; central area of metathorax transverse, rather large.

Male.—Black; head with the orbits, interrupted behind, the face, clypeus, spot on mandibles, and the palpi, whitish; a broad black vitta extending from the base of the antennæ to the anterior margin of the clypeus; antennæ three-fourths the length of the body, slender, black, the basal joint beneath with a white spot. Thorax densely and finely punctured; the mesothorax in front with a shallow impression on each side; the collar above, tegulæ, a sutural line before and a short one beneath the wings, white; scutellum rather convex, polished, yellowish-white, behind it a small spot of the same color; metathorax rather finely and confluent punctured, the elevated lines tolerably well defined, shining, the central area rather large or moderate, semicircular, transverse, convex in front. Wings almost hyaline, having a very faint tinge of fuliginous especially on the apical margin; nervures fuscous, costa piceous, stigma paler; areolet 5-angular. Legs black, a spot on the anterior coxæ beneath, the anterior femora and tips of the middle femora within and the two anterior pairs of tibiæ and tarsi, except a black line behind, whitish; the basal two-thirds of the posterior tibiæ and the joints of the tarsi exteriorly except their extreme tips also whitish; tips of all the tarsi black. Abdomen elongate, rather slender, shining, densely and finely punctured; basal segment bilineated, rather smooth, the peduncle short; basal foveæ of the second segment small, deep and oblique; apical segments polished; beneath black. Length $6-6\frac{1}{2}$ lines; expanse of wings $10\frac{1}{2}-11$ lines.

Hab.—Delaware (Dr. Wilson); Illinois (Dr. Lewis).

20. *Ich. cordatus*, n. sp.

Black; sides of face, a cordate spot on scutellum and legs in part, white; wings subhyaline; central area of metathorax transverse.

Male.—Head black, the frontal orbits (interrupted on each side of the insertion of the antennæ, narrow above, broader below and constricted on each side of the clypeus), a spot on each side of the clypeus, spot on mandibles, and the palpi, white; antennæ more than half

the length of the body, black. Thorax black, shining, closely punctured; a spot on tegulæ, a spot before and a line beneath the wings white; scutellum rather flat, smooth and shining, black with a rather large, cordate, white spot; metathorax black, subopaque, the elevated lines well defined, the central area transverse, subreniform, being rounded in front and emarginate behind. Wings subhyaline, apical margins slightly fuliginous, nervures and stigma black, areolet 5-angular. Legs black, tips of the four anterior femora and their tibiæ and tarsi exteriorly, white, the tips of the latter and the claws, black; inner half of the posterior tibiæ also white. Abdomen elongate, black with a slight tinge of blue, somewhat shining, rather smooth. the punctures close, but distinct and uniform, becoming less obvious towards the tip; first segment bilineated, shining, the peduncle slender; basal foveæ of the second segment obliquely impressed; beneath black. Length 6 lines; expanse of wings 10 lines.

Hab.—Rocky Mountains, Colorado Territory.

21. *Ich. obliterated*. n. sp.

Black; scutellum white; wings subhyaline, areolet incomplete; central area of metathorax obliterated.

Male.—Jet-black, subopaque, densely punctured; a minute whitish spot at the summit of the eyes; antennæ about half the length of the body, entirely black. Thorax shining above, confluent punctured; a spot on tegulæ, a short line before and a line beneath the wings, white; scutellum rather convex, deeply impressed in front, with a large quadrate white spot; metathorax opaque, scabrous, the elevated lines indistinct, the central area obliterated. Wings subhyaline, apical margins smoky; areolet subtriangular, incomplete, the outer nervure being almost entirely obliterated. Legs black; tips of the anterior and intermediate femora, the anterior tibiæ and tarsi, the intermediate tibiæ and tarsi exteriorly, and the posterior tibiæ at base, white. Abdomen elongate, rather slender; basal segment, broad posteriorly, bilineated and roughly punctured; basal foveæ of the second segment small and indistinct; the second and third segments above densely punctured, the apical ones smoother and shining, especially the sixth and seventh; beneath black, shining. Length $6\frac{1}{2}$ lines; expanse of wings 11 lines.

Hab.—Rocky Mountains, Colorado Territory.

22. *Ich. subcyaneus*, n. sp.

Black, with a bluish tinge: annulus on the antennæ and the scutellum white; wings subhyaline: central area of metathorax quadrate, moderate.

Female.—Black, tinged with blue, shining, finely and densely punctured; frontal orbits pale, subobsolete; antennæ involute, black, 10th to 16th joints whitish. Scutellum flat, polished, yellowish-white; metathorax finely punctured, the elevated lines well defined, the central area moderate, quadrate. Wings almost hyaline, having a faint tinge of fuliginous; nervures fuscous, costa blackish, stigma brown; areolet 5-angular. Legs black, the two anterior pairs tinged with brown. Abdomen stout, subovate, strongly arcuated, deeply tinged with dark blue; basal segment very broad, bilineated, punctured and subobsoletely aciculate, the tip deeply incised; basal foveæ of the second segment transverse, rather deeply impressed; apical segments smooth and polished; ovipositor not exerted. Length 5 lines; expanse of wings $9\frac{1}{2}$ lines.

Hab.—New Jersey. Mr. Wm. Wenzel.

SECTION 3—*a*.23. *Ich. scelestus*, n. sp.

Deep black, annulus on the antennæ, spot on scutellum and another on terminal segment of the abdomen whitish; wings dark fuscous; central area of metathorax large, quadrate, elongate.

Female.—Deep black, shining, densely and finely punctured; on each side of the clypeus a deep fovea; antennæ short, slightly involute, black, 9th to 13th joints whitish, spotted on the outside with blackish; scutellum rather flat, polished, with a small yellowish spot posteriorly; metathorax finely and densely punctured, the elevated lines well defined, the central area large, elongate-quadrate. Wings dark fuscous, with a rather strong violaceous and cupreous reflection; nervures and stigma black; areolet 5-angular, with a small hyaline spot on its outer nervure and two others below. Legs deep black, the anterior tibiæ and tarsi pale in front. Abdomen elongate, strongly arcuated, feebly punctured, shining; basal segment bilineated, smooth on the disk and deeply punctured laterally; apical segments polished, the extreme tip with a rounded yellowish-white spot; ovipositor not exerted. Length $6\frac{1}{2}$ lines; expanse of wings $10\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

24. *Ich. extrematis*, n. sp.

Deep black: annulus on antennæ, scutellum and extreme apex of a abdomen above, white; wings subhyaline; central area of metathorax moderate, subquadrate.

Female.—Deep black, somewhat shining, densely and finely punctured; clypeus on each side with a deep fovea; antennæ about half the length of the body, slightly involute, black, 8th to 13th joints above white; scutellum flat, polished, yellowish-white; metathorax finely punctured, the elevated lines well defined, the central area moderate, subquadrate, slightly transverse. Wings subhyaline, tinged with fuliginous; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular, somewhat oblique. Legs black, sericeous, the anterior pair brownish in front, the posterior trochanters white. Abdomen rather stout, subovate, shining, the 2nd and 3rd segments opaque; basal segment rather broad, glossy, bilineated, obsolete aciculate; basal foveæ of the 2nd segment subobsolete; apical segments polished; terminal segment above and the posterior margin of the 6th segment, white; beneath black; ovipositor not exerted. Length 5 lines; expanse of wings 8 lines.

Hab.—Illinois. Dr. Samuel Lewis.

Closely allied to *Ich. brevicinctor* Say, but is shorter and more robust, and the wings are shorter and darker; it is readily distinguished from Say's species by the posterior trochanters being entirely white.

Ich. brevicinctor Say also belongs to this Section.

SECTION 3—b.

25. *Ich. cæruleus*, n. sp.

Deep blue, shining; thorax tinged with green; orbits, two spots on clypeus, lateral sutures of mesothorax, two short lines on its disk and sides of scutellum, whitish; wings clear; central area of metathorax moderate, quadrate, indistinctly defined.

Female.—Deep dark blue, shining, clothed with a very short pale pubescence; head black with a bluish-green tinge, closely punctured; the orbits (interrupted behind), a round spot on each side of the clypeus, the labrum, a spot on the mandibles and the palpi, whitish; labrum and mandibles fringed with yellowish pubescence; antennæ short, involute, black, the 10th to 15th joints above white, the tip beneath fuscous. Thorax rather closely and finely punctured; the mesothorax black more or less tinged with green, the pleura and metathorax green-

ish-blue; the collar above, outer margin of the tegulæ, a sutural line before and a short line beneath the wings, and two longitudinal lines on the disk of mesothorax, white; scutellum same color as the mesothorax, sparsely punctured, polished, its lateral margins whitish; post-scutellum with a transverse white spot; metathorax finely and confluent punctured, the elevated lines tolerably well defined, the central area moderate, subquadrate, indistinctly defined, smooth and shining. Wings almost hyaline, being faintly tinged with fuscous; nervures and stigma black; areolet 5-angular. Legs black, the anterior coxæ beneath, the four anterior femora at tip and their tibiæ in front, and sometimes the posterior tibiæ at base exteriorly, whitish. Abdomen elongate, stout, brilliant deep blue, closely and finely punctured, shining; basal segment rather broad, bilineated, finely aciculate, and with a small whitish spot, sometimes obsolete or wanting, on each extreme apical corner, the peduncle short; extreme base of the second segment between the basal foveæ which are deep, is coarsely aciculate; apical segments polished, impunctured. Length 6—8 lines; expanse of wings 10—13 lines.

Hab.—Mass., N. Y., N. J., Penn., Md., Ill. Eight ♀ specimens.

This is a very beautiful species; it agrees in some respects with the description given of *Ich. pulcher* Brullé, but I cannot satisfy myself of their identity. In this species the scape of the antennæ is always black, the face is black with narrow white orbits, and the sides of the mesothorax and surface of the metathorax are not ornamented with yellow lines or spots, as is said to be present in *pulcher*. I have not seen the male.

26. *Ich. Azotus*, n. sp.

Black; face, orbits, lateral lines of mesothorax and two lines on its disk, scutellum, and apex of the first abdominal segment, white; wings hyaline; central area of metathorax moderate, transverse.

Male.—Black, shining; the face beneath the antennæ, orbits, clypeus, mandibles except base, and the palpi, white; antennæ porrect, about three-fourths the length of the body, black, the basal joint beneath white. Thorax finely and closely punctured, with an impressed line on each side of the mesothorax in front; the tegulæ, a broad sutural line before and a short line beneath the wings, and two short lines on the disk above, white; scutellum rather flat, polished, white except

its anterior margin which is black; a transverse white line on the post-scutellum; metathorax densely and confluent punctured, the elevated lines well defined, the central area moderate, narrow and transverse, the space in front convex. Wings hyaline, slightly fuliginous at tip; nervures and stigma black; areolet 5-angular or subtriangular. Legs black, the two anterior pairs in front and their coxæ beneath, as well as a line on the posterior tibiæ and tarsi behind, white. Abdomen elongate, rather slender, densely and very finely punctured; basal segment bilineated, closely punctured, the extreme apex with a large white spot on the disk and a smaller one on each side, having the appearance of a transverse band trilobed in front; basal foveæ of the second segment large, deep and somewhat oblique; apical segments rather smooth and shining. Length $7\frac{1}{2}$ lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Delaware. Dr. T. B. Wilson.

Closely resembles *Ich. otiosus* Say, but the antennæ have no white annulus, the face is entirely white, the colors of the legs are differently arranged and the metathorax has no lateral white spot as is always present in that species.

27. *Ich. agnitus*, n. sp.

Black; antennæ with a broad white annulus; orbits, a spot on each side of clypeus, lateral lines of mesothorax and the scutellum, white; wings subhyaline; central area of metathorax subquadrate.

Female.—Black, shining. Head with the orbits of the eyes and a spot on each side of the clypeus, white; antennæ about half the length of the body, the apex involute, the 9th to 15th joints white, spotted beneath with black. Thorax strongly punctured; tegulæ black; the collar above, a sutural line before and a short line beneath the wings, white; scutellum flat and polished, with a large round white spot covering nearly its entire surface, behind it an obsolete pale spot; metathorax densely and confluent punctured, the elevated lines tolerably well defined, the central area moderate, subquadrate, rather smooth. Wings subhyaline, slightly stained with fuscous; nervures and stigma black; areolet 5-angular or subtriangular, slightly oblique. Legs black, the anterior and middle femora at tip, the anterior tibiæ in front and a spot on the posterior coxæ beneath, white. Abdomen elongate, black, slightly tinged with blue, densely and minutely punctured; basal segment bilineated, broad posteriorly, distinctly punctured and having at its

extreme tip above a narrow white line and a minute white dot on each side of it; basal foveæ of the second segment deep; apical segments smooth and shining; ovipositor not exerted. Length $6\frac{1}{2}$ lines; expanse of wings 11 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

Differs from *Ich. otiosus* Say, by having a white spot on each side of the clypeus, by the absence of the lines on the disk of the thorax, by the different coloration of the legs, by the absence of the lateral spots on the metathorax and by the different shaped central area, which in *otiosus* is transverse, rounded in front and deeply indented behind.

The following species also belong to this Section:—*Ich. unifasciatus* Say, *Ich. otiosus* Say, *Ich. navus* Say and *Ich. pulcher* Brullé, all of which are known to me, except the last.

SECTION 3—c.

28. *Ich. apicalis*. n. sp.

Black; face yellow; scutellum pale; legs and apex of abdomen fulvous; wings subhyaline; central area of metathorax large, quadrate, indistinct.

Male.—Head black, the face beneath the antennæ, frontal orbits, clypeus, mandibles except base and apex, and the palpi, yellow: antennæ rather more than half the length of the body, black, the basal joint beneath yellow. Thorax black, shining, closely punctured; tegulæ, a spot before and a line beneath the wings, yellow; scutellum rather flat, smooth and shining, black, with a subquadrate, obscure yellowish spot; metathorax roughly punctured, opaque black, the elevated lines tolerably distinct, the central area quadrate, not well defined. Wings fusco-hyaline; nervures fuscous, pale at base, stigma fulvous; areolet 5-angular. Legs fulvous, anterior and intermediate coxæ black above, yellow beneath, the posterior pair entirely black; the four anterior legs yellowish in front. Abdomen black, elongate, minutely punctured; first segment finely aciculate, bilineated, the foveæ of the second segment profoundly impressed; second, third and fourth segments opaque, the apical ones smooth and shining; last segment fulvous; beneath blackish, with the middle of the 2nd and three following segments pale yellow, the apical ones fulvous. Length 6 lines; expanse of wings 11 lines.

Hab.—Rocky Mountains, Colorado Territory.

SECTION 4.

29. *Ich. variegatus*, n. sp.

Black; face, scutellum, metathorax, legs in most part, and basal $\frac{1}{2}$ of second abdominal segment, yellow; rest of abdomen, except basal segment, rufous; wings subhyaline: central area of metathorax subquadrate and transverse.

Male.—Head black, the face beneath the antennæ, frontal orbits, clypeus, spot on mandibles, and the palpi, bright yellow; antennæ porrect, nearly as long as the body, black, basal joint beneath yellow. Thorax black, polished, very finely punctured; tegulæ, a sutural line before and a line beneath the wings, yellow; scutellum slightly convex, polished, entirely bright yellow; metathorax densely punctured, yellow except its anterior and lateral margins, the elevated lines tolerably well defined, the central area moderate, transverse, subquadrate. Wings subhyaline, slightly fuliginous; nervures and stigma piceous, paler at base; areolet δ -angular. Legs bright yellow, the posterior coxæ, femora and apical half of the tibiæ, black. Abdomen elongate, rather slender, opaque, densely and very finely punctured; basal segment black, distinctly bilineated and finely aciculate; second segment bright yellow, its apical half dull rufous, the basal foveæ small, black, coarsely aciculate; remaining segments dull rufous, the third segment having on each side an irregular yellowish stain dilated laterally; apical segments smoother than the basal ones; beneath pale ferruginous, the middle of the segments stained with yellowish. Length 8 lines; ex-pause of wings $11\frac{1}{2}$ lines.

Variety δ .—Differs from the above as follows:—The four anterior femora have a black spot behind, the wings are clearer, the apical half of the 2nd abdominal segment is yellowish-ferruginous as also the basal foveæ, the 3rd segment above is entirely yellow, except the basal incisure which is black, the remaining segments are dull rufous, the 4th and 5th each having a narrow black fascia at base. Length $6\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

30. *Ich. inconstans*, n. sp.

Black: face, scutellum, legs, the 2nd, 3rd, 4th and two apical segments of abdomen, more or less yellow; wings subhyaline; central area of metathorax moderate, subquadrate.

Male.—Head black; the face beneath the antennæ, clypeus, mandibles (except the base which is piceous), and the palpi pale yellow; antennæ porrect, rather more than half the length of the body, black,

basal joint beneath yellow. Thorax black, minutely punctured, shining; tegulæ, a spot before and a line beneath the wings, white; scutellum flat, polished, white; metathorax entirely black, finely and confluent punctured, opaque, the elevated lines well defined, the central area moderate, subquadrate, rounded in front and obtusely indented behind. Abdomen elongate, rather slender, finely and densely punctured; basal segment black, distinctly bilineated and finely aciculate; second and third segments bright yellow, their apical third stained with ferruginous and their extreme apex obfuscated; fourth segment brown-black with a large angular yellow spot on each side, almost meeting on the disk; the two following segments black, the apical ones fulvous; beneath colored as above. Length 7—8 lines; expanse of wings 11—11½ lines.

Hab.—Rocky Mountains, Colorado Territory.

31. *Ich. Grotei*, n. sp.

Black; face and scutellum yellow; metathorax yellowish-ferruginous; abdomen ferruginous and yellow, banded with black; central area of metathorax small, transverse.

Male.—Head black; the face beneath the antennæ, orbits, clypeus, mandibles except base and extreme tips, and the palpi, yellow; antennæ porrect, rather more than half the length of the body, brown-black, basal joint beneath yellow. Thorax black, finely and rather closely punctured, shining; tegulæ, a broad sutural line before and a short one beneath the wings, an oblique line on each side of the pectus, yellow or yellowish-ferruginous; a spot on each side of the pleura and two lines on the disk of the mesothorax, almost confluent behind and diverging in front, rufous and subobsolete; scutellum rather convex, shining, yellow, immediately behind it a short transverse yellowish-ferruginous line; metathorax almost entirely yellowish-ferruginous, the elevated lines tolerably well defined, the central area small, transverse, subquadrate, the posterior margin bent inwards. Wings subhyaline, with a brassy gloss, the apical margin faintly tinged with fuliginous; nervures blackish, pale testaceous at base, as well as the outer margin of the costa; stigma fulvous; areolet 5-angular. Legs yellow, more or less varied with fulvous, the posterior coxæ, trochanters, femora and tips of the tibiæ fulvous, the latter obfuscated at tips. Abdomen long and rather slender, densely and finely punctured, opaque-yellow,

varied with fulvous or pale ferruginous, the tips of the first, second, third and fourth segments bright yellow, their middle yellowish-ferruginous, their basal third black, as well as the base of the fifth and sixth segments. the remainder of these segments and also the apical segment entirely, fulvous; basal segment distinctly bilineated; basal foveæ of the second segment small and transverse; fifth and following segments smoother than the preceding ones, and somewhat shining; beneath, the segments are yellow varied with fulvous, the basal segment black, the middle of the second and three following segments yellow with a black spot on each side at base; apical segments fulvous. Length $6\frac{1}{2}$ — $7\frac{1}{2}$ lines; expanse of wings 11— $12\frac{1}{2}$ lines.

Variety ♂.—Differs from the above by having the cheeks, disk of the thorax above and the sides of the pleura more or less yellowish-ferruginous; in one specimen the pleura has on each side a broad yellowish-ferruginous dash. Length 6 lines.

Hab.—Rocky Mountains, Col. Ter. Illinois. Dr. Saml. Lewis.

The two specimens from Illinois are not so bright in color as those from Colorado, the ferruginous color being very dull, approaching fuscous, especially at the apex of the abdomen. I have no doubt of their identity.

I dedicate this beautiful species to my friend Mr. Aug. R. Grote of New York.

Ich. jucundus Brullé also belongs to this Section.

SECTION 5.

32. *Ich. nobilis*, n. sp.

Black; face, scutellum, metathorax and legs in part, and posterior portion of the first 4 abdominal segments, yellow; central area of metathorax transverse.

Male.—Head black; the face beneath the antennæ, orbits, clypeus, mandibles and palpi, yellow; antennæ porrect, about half the length of the body, black, basal joint beneath yellow. Thorax black, shining, closely punctured, clothed with short fuscous pubescence; collar above, tegulæ, a broad sutural line before and a short line beneath the wings, yellow; scutellum convex, yellow, as well as a short line behind it; metathorax mostly yellow, its anterior, posterior and lateral margins black, the elevated lines well defined, the central area moderate, transverse. Wings subhyaline, stained with yellowish; nervures fuscous, testaceous at base, stigma fulvous; areolet 5-angular. Legs yellow, a

spot on the intermediate coxæ beneath, the posterior coxæ, their femora except extreme base and apex, and the tips of their tibiæ, black. Abdomen elongate, stout, black; the first segment, except peduncle, apical two-thirds of the second, and the apical half of the two following segments, yellow; remaining segments black, narrowly margined at tip with obscure yellowish, shining; basal segment bilineated, finely aciculate; basal foveæ of the 2nd segment small; beneath colored same as above, except that the black bands of the 2nd, 3rd and 4th segments are interrupted on the middle. Length 9 lines; expanse of wings 15 lines.

Hab.—Illinois. Dr. Saml. Lewis.

Closely resembles *Ich. lætus* Brullé, but is much larger, the wings longer, and the central area of the metathorax differently shaped; the colors are arranged pretty much the same, but the apical segments of *lætus* are always black.

I would remark here that *Ich. parata* Say, Contrib. Macl. Lye. i, p. 68, and *Ich. parata* Say, Bost. Journ. Nat. Hist. i, p. 228, refer to two separate and distinct species; the former belongs, I think, to *Ischnus*, and the latter is a true *Ichneumon*, and identical with *Ich. lætus* Brullé,—Say having mistaken the two for ♂ and ♀ of the same species. I have six specimens of the former species, all males, and fifteen of the latter, also all males. They are widely distinct and answer exactly to the descriptions given of them. I have therefore separated the two as follows:—

Ischnus paratus Say.—*Ichneumon parata* Say, Contrib. Macl. Lye. i, p. 68.

Ichneumon lætus Brullé.—*Ich. parata* Say, Bost. Jour. Nat. Hist. i, p. 228.

33. **Ich. flavizonatus**. n. sp.

Black: face, scutellum, legs, two spots on metathorax and 5 bands on the abdomen, yellow; wings subhyaline; central area of metathorax transverse.

Black; the face, clypeus, mandibles except base and apex, frontal orbits not reaching the vertex, and the palpi, yellow; antennæ about half the length of the body, porrect, black or brown above, fulvous beneath, obfuscated at the tips, the basal joint beneath yellow. Thorax densely and finely punctured; the collar above, tegulæ, a short sutural line before and a short line beneath the wings, yellow; scutellum rather convex, polished, entirely yellow, with a small transverse spot immediately behind it; metathorax densely and rather finely punctured.

tured, opaque black, with a rather large yellow spot on each side. sometimes reduced to a small round spot, the elevated lines well defined, the central area subquadrate, transverse, moderate, its margins polished. Wings subhyaline, more or less stained with fuscous; nervures fuscous, testaceous at base; stigma fulvous; areolet 5-angular or subtriangular. Legs yellow, the posterior coxæ beneath and the tips of their femora and tibiæ, black; tips of the tarsi sometimes blackish. Abdomen elongate, opaque, finely punctured, the punctures coarser at base of the second segment; basal segment distinctly bilineated and finely aciculate; basal foveæ of the second segment deep, coarsely aciculate; apex of all the segments above with a more or less broad yellow or yellowish-white band, sometimes slightly indented anteriorly; in one specimen the bands are much narrowed and that on the 5th segment is wanting and that on the 7th segment is interrupted in the middle; in another specimen the bands of the two apical segments are nearly white and occupy almost the whole surface; beneath pale fulvous, the 2nd, 3rd and 4th segments each with a large lateral blackish spot, remaining segments black. Length $7\frac{1}{2}$ lines; expanse of wings 12 lines.

Hab.—New York (Mr. James Angus); Virginia (Dr. T. B. Wilson).

Allied to *Ich. lætus* Brullé, but is more robust, the bands of the abdomen much narrower and continued on the apical segments, and the central area of the metathorax is transverse.

34. *Ich. atrifrons*, n. sp.

Black, antennæ with a broad whitish annulus; scutellum, sides of metathorax, and the apical and lateral margins of the abdominal segments, yellow; legs fulvous varied behind with yellow; wings clear; central area of metathorax, elongate-quadrate.

Female.—Black, somewhat shining, finely and densely punctured; head entirely black, except the frontal orbits above the antennæ which are broadly yellow; antennæ two-thirds the length of the body, black, the 10th to 15th joints whitish, basal joint beneath pale brownish. Thorax: collar above, tegulæ, a short sutural line before and a spot beneath the anterior wings, another spot beneath the posterior pair and a round spot on each side of the pleura immediately over the intermediate coxæ, yellow; scutellum flat, polished, yellow, with a transverse yellow spot behind it, the carina on each side in front of the

scutellum with a small yellow spot exteriorly; metathorax finely and densely punctured, black, with a very large longitudinal spot on each side of the middle and a small rounded yellow spot on the extreme sides, the elevated lines well defined, the central area moderate. quadrate, elongate. Wings hyaline, nervures testaceous, stigma pale fulvous, areolet 5-angular. Legs dull fulvous, the coxæ, trochanters and the four anterior femora behind yellow, posterior coxæ at base beneath and at the insertion of the trochanters behind, black. Abdomen elongate, rather robust, strongly arcuated, basal segments opaque, apical ones shining; basal segment rather narrow, bilineated, finely aciculate; basal foveæ of the second segment scarcely impressed; the apical and lateral margins of all the segments, broader at the apical corners, yellow; beneath blackish; ovipositor fulvous, exerted about half a line. Length 5 lines; expanse of wings $8\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

To this Section also belongs *Ich. comptus* Say and *Ich. concinnum* Say, the last of which is unknown to me.

SECTION 6.

35. *Ich. comes*, n. sp.

Black; face, two lines on mesothorax, scutellum, spot on pleura, W on metathorax, legs in part, and the 2nd and 3rd abdominal segments, yellow: central area of metathorax quadrate.

Male.—Head black; face beneath the antennæ, frontal orbits, clypeus, mandibles except tips, palpi, and a spot on the cheeks just above the base of the mandibles, yellow; antennæ porrect, about two-thirds the length of the body, black, basal joint beneath, yellow. Thorax black, shining, finely punctured; collar above, tegulæ, a broad sutural line before and a narrow one beneath the wings, two lines on the disk of mesothorax (which are confluent before reaching the posterior margin, diverging in front and becoming confluent with the sutural lines), and a rather large irregular mark on pleura, enclosing a small black spot, yellow; scutellum convex, yellow, polished, behind it a short, transverse, yellowish spot; the lateral carinæ of the scutellum have an exterior yellow spot; metathorax scabrous, black, with a yellow mark behind having somewhat the shape of a W; elevated lines well defined, the central area moderate, quadrate, not at all transverse. Wings subhyaline, slightly stained with yellowish; nervures pale fuscous, testa-

ceous at base, stigma pale fulvous; areolet 5-angular. Legs yellow; the posterior coxæ, their femora except extreme base, and the apex of their tibiæ, black; tips of the tarsi brown, the four anterior femora stained with blackish behind. Abdomen elongate, rather stout, black; the 2nd, except a transverse irregular blackish mark at tip, and the whole of the 3rd segment, yellow; basal segment bilineated, finely aciculate; basal foveæ of the 2nd segment deep; apical segments smoother than the basal ones; beneath colored same as above, except that the 4th segment is stained with yellowish. Length 7—8½ lines; expanse of wings 12—13½ lines.

Hab.—Illinois (Dr. Saml. Lewis); Delaware (Dr. T. B. Wilson).

The lines on the disk of the mesothorax, and the irregular mark on the pleura are sometimes wanting; the foveæ of the 2nd abdominal segment are sometimes black, and the irregular black mark on the apical half of this segment sometimes forms a regular band.

This species is closely allied to *Ich. lætus* Brullé, and may possibly prove to be a variety of it. The wings are, however, longer, the antennæ are entirely black, except the basal joint beneath, and the basal segment of the abdomen is always black; only two segments are yellow, while *lætus* has four.

36. *Ich. parvus*, n. sp.

Black: face, scutellum; legs in part, and the apical half of the three first abdominal segments, yellow: wings subhyaline: central area of the metathorax moderate, subquadrate.

Male.—Black, finely punctured, shining; the face, clypeus, spot on mandibles and the palpi, yellow; antennæ about half the length of the body, porrect, black, the basal joint beneath yellow. Thorax entirely black; scutellum slightly convex, polished, entirely yellow; metathorax finely punctured, the elevated lines well defined, the central area moderate, subquadrate, somewhat elongate, rounded in front and indented behind. Wings subhyaline, slightly iridescent; nervures fuscous, paler at base, stigma brown or fulvous; areolet 5-angular. Legs yellow; the coxæ, the four anterior femora behind, the posterior femora entirely and their tibiæ at tips black; tips of the tarsi blackish, and sometimes the posterior tarsi are almost entirely blackish. Abdomen elongate, rather slender, apical segments smooth and shining, the basal ones finely punctured; basal segment bilineated, finely aciculate; basal foveæ

of the second segment small, not deep; apex of the first segment and the apical two-thirds of the two following segments yellow, in one specimen the apical middle of the fourth segment is obscurely yellowish; beneath colored same as above. Length $4\frac{1}{2}$ lines; expanse of wings 7 lines.

Hab.—New York (Mr. Angus); Illinois (Dr. Lewis).

About half the size of *Ich. lætus* Brullé, which it resembles in color, except that the meso- and metathorax are immaculate.

37. *Ich. pictifrons*, n. sp.

Black, face spotted with yellow; scutellum, legs in part, and the 2nd and 3rd abdominal segments yellowish; wings subhyaline; central area of metathorax large, transversely quadrate.

Male.—Black, very finely punctured; a wedge-shaped stripe on each side of the face, two small spots immediately beneath the antennæ, clypeus, except a blackish spot on its middle, and a spot on the mandibles, yellow; antennæ more than half the length of the body, porrect, black, tip of the basal joint beneath yellowish. Thorax entirely black; scutellum slightly convex, yellow, stained with fulvous at base and apex; metathorax finely and densely punctured, the elevated lines well defined, the central area large, transversely quadrate, its posterior margin rather indistinct. Wings subhyaline, slightly stained with fuliginous, and having a slight violaceous reflection at tips; nervures blackish, stigma brown; areolet 5-angular. Legs yellowish; the coxæ, the four anterior femora behind, the posterior femora entirely and the apex of the posterior tibiæ, black; tips of the tarsi also blackish. Abdomen elongate, rather slender, basal segment bilineated and finely aciculate; basal foveæ of the second segment large and deeply impressed; apical segments smooth and shining; the second and third segments yellowish-fulvous, the anterior half of the second segment paler; beneath colored same as above. Length 5 lines; expanse of wings $7\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

38. *Ich. bizonatus*, n. sp.

Black: face, annulus on antennæ, scutellum, legs in part, and two bands on abdomen, yellow; wings subhyaline; central area of metathorax large, quadrate.

Female.—Head black, shining, sides of the face and frontal orbits, yellow, the latter tinged with ferruginous near the summit of the eyes;

middle of the face and the clypeus rufous, the latter with a yellow spot on each side, the mandibles near their tips also rufous; antennæ two-thirds the length of the body, black, the basal joint beneath yellow, and the 8th to 12th joints yellowish-white, spotted beneath with black. Thorax black, rather densely and closely punctured, shining, the tegulae and a spot before the wings honey-yellow; a line beneath the wings and the scutellum yellow, the latter flat, smooth and shining; metathorax scabrous, the elevated lines well defined, the central area large, quadrate. Wings subhyaline, slightly stained with fuscous and having a brassy gloss, the nervures and stigma testaceous, the areolet 5-angular. Legs black, apex of the anterior and intermediate femora and the tibiae and tarsi yellow, the latter obfuscated at tips, the anterior femora stained with ferruginous on the inside; the posterior femora entirely black, the basal half of their tibiae yellow, the tarsi dusky. Abdomen black, the petiole rather slender; first segment bilineated, finely aciculate, the second and third segments above very finely and closely punctured, the remaining segments smooth and shining; at the base of the second and third segments above a rather narrow transverse yellow band, the posterior margin of which is denticulated, that on the second segment covering the base and extending down for a short distance on each side of the segment, that on the third segment not quite reaching the base and is somewhat dilated on each side; beneath, the second, third and fourth segments are yellowish, the rest black; ovipositor scarcely exerted. Length 6 lines; expanse of wings 11 lines.

Hab.—Rocky Mountains, Colorado Territory.

SECTION 7—*a.*

39. *Ich. ambiguus*. n. sp.

Black: the face, orbits, two lines before the wings, scutellum and the anterior legs in front, white; wings fuliginous; central area of metathorax small, subconical.

Male.—Elongate. Head black, the face beneath the antennæ, the orbits interrupted behind, clypeus, spot on mandibles, and the palpi, white; antennæ porrect, more than half the length of the body, black, basal joint beneath white. Thorax black, shining, closely punctured; mesothorax in front with two impressed longitudinal lines reaching the disk: the collar above, an abbreviated sutural line before and a dot beneath the wings, white; scutellum flat, polished, with a large round

white spot; metathorax scabrous, the elevated lines well defined, the central area small, elongate, subconical, smooth and polished. Wings fuliginous, darkest along the costa; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular. Legs black, the intermediate coxæ beneath with a rounded white spot, the anterior and intermediate legs in front white, tarsal claws black. Abdomen elongate, sublinear, depressed, opaque yellowish-ferruginous; basal segment black, bilineated, finely aciculate at tip; basal foveæ of the second segment deep and oblique; apical segments somewhat shining. Length 10 lines; expanse of wings 15 lines.

Hab.—Pennsylvania. E. T. Cresson.

40. *Ich. vinulentus*. n. sp.

Black; face, scutellum and legs in part, white; abdomen rufous; wings subhyaline; central area of metathorax quadrate.

Male.—Head black, the face below the antennæ, frontal orbits, clypeus, a spot near the tip of the mandibles, and the palpi, white; antennæ two-thirds the length of the body, blackish, the basal joint beneath white. Thorax black, shining, finely, closely and uniformly punctured; tegulæ, a cuneiform mark before and a short line beneath the fore-wings, white; scutellum almost flat, smooth, shining and entirely white; metathorax opaque black, finely scabrous, the elevated lines smooth and shining, the central area large, quadrate, not at all transverse, more finely sculptured than the rest of the metathorax. Wings subhyaline, with a slight brassy gloss; the nervures and stigma dark fuscous, the former much paler at base; areolet 5-angular or almost triangular. Legs white; the coxæ, except a small spot posteriorly, the outer surface of the anterior and intermediate femora except their extreme base and apex, the posterior femora except their extreme base, and almost the terminal half of the posterior tibiæ, black. Abdomen rufous; the basal segment black, distinctly bilineated, finely aciculate, interspersed with a few punctures at base; basal foveæ of the second segment deep and somewhat oblique, this and the following segments opaque, very densely and finely punctured, the punctures becoming finer and the surface smoother towards the apex. Length $7\frac{1}{2}$ lines; expanse of wings $12\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

41. *Ich. consimilis*, n. sp.

Black : face, scutellum and legs in part, yellow ; abdomen brick-red ; wings subhyaline ; central area of metathorax subquadrate, moderate.

Male.—Head black, the face below the antennæ, frontal orbits, clypeus, mandibles except base and apex, and the palpi, yellow ; antennæ two-thirds the length of the body, black, the basal joint beneath with a broad yellow line. Thorax black, finely, closely and uniformly punctured ; tegulæ, a narrow sutural line before the wings abbreviated before and suddenly dilated behind, and a short line beneath the wings, yellow ; scutellum convex, entirely pale yellow ; a small, transverse, subobsolete, yellowish line behind the scutellum ; metathorax black, rather finely rugose, the elevated lines well defined ; the central area subquadrate, rounded in front and obtusely emarginate behind. Wings subhyaline, slightly tinged with fuscous and with a brassy gloss ; nervures fuscous, testaceous at base, stigma fulvous ; areolet 5-angular or subtriangular. Legs yellow ; coxæ, trochanters, anterior and intermediate femora exteriorly except tips, the posterior femora entirely, as well as the tips of the posterior tibiæ, black. Abdomen brick-red, darker towards the apex ; basal segment black, distinctly bilineated, finely aciculate ; basal foveæ of the second segment deep and somewhat oblique, and between which the surface is finely aciculate ; second and following segments opaque, very finely and densely punctured ; ventral segments stained with yellowish, with a more or less dusky spot on each side especially towards the tip. Length $7\frac{1}{2}$ lines ; expanse of wings $12\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

Closely resembles *Ich. vinulentus*, but besides the difference of color, the scutellum is much more convex and the sculpture of the metathorax is different, the central area being smaller and differently shaped.

42. *Ich. juxtus*, n. sp.

Black : face, scutellum and legs in part, yellow ; abdomen dull ferruginous ; wings subhyaline ; central area of metathorax large, transversely subreniform.

Male.—Head black, the face beneath the antennæ, frontal orbits, clypeus, mandibles except base and apex, and the palpi, yellow ; antennæ more than half the length of the body, black, the basal joint beneath yellow. Thorax black, finely punctured ; a sutural line before the wings, tegulæ and a line beneath the wings, pale yellowish ; a sub-

obsolete, quadrate, ferruginous spot on the disk of the mesothorax; scutellum rather flat, pale yellowish, shining, a short transverse line of the same color just behind; metathorax opaque black, with a sub-obsolete, longitudinal, rufous stripe on each side; densely and roughly punctured, clothed like the head and thorax with short pale brownish pubescence; the elevated lines well defined, the central area large, transversely subreniform, being broadly rounded in front and emarginate behind. Wings subhyaline, with a faint violaceous and brassy gloss; nervures fuscous, pale at base, stigma ferruginous; areolet 5-angular. Legs yellow; the four anterior coxæ black, more or less stained with ferruginous beneath, as well as their femora beneath; posterior coxæ black with a subabsolute rufous spot behind, their femora, except their base and trochanters which are rufous, and the tips of their tibiæ, black. Abdomen dull ferruginous, the apical margin of each segment with an indistinct darker stain, the basal half of the petiole blackened; first segment distinctly bilineated and finely aciculate; basal foveæ of the second segment small, not deep, this and the following segments densely and finely punctured, the punctures becoming finer and the surface smoother towards the tip; beneath, the basal segment is black, the disk of the second and third and the apical margin of the following segments are yellowish. Length $7\frac{1}{2}$ lines; expanse of wings $12\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

Resembles the two preceding species, but differs much in the distribution of color, and especially in the shape of the central area of the metathorax which in this species is transversely subreniform, while in the two preceding species it is quadrate or subquadrate.

43. *Ich. animosus*, n. sp.

Black; face, scutellum and legs in part, yellow; wings hyaline; abdomen dull rufous banded with black; central area of metathorax elongate.

Male.—Head deep black, shining; face beneath the antennæ, frontal orbits, clypeus, mandibles, except base and apex, and the palpi, bright yellow; antennæ two-thirds the length of the body, black, basal joint beneath bright yellow. Thorax deep black, shining, finely and rather sparsely punctured; tegulæ, a short line before and a line beneath the wings, yellow; scutellum rather flat, shining, entirely bright yellow, except a sinuate line at base, which gives the yellow a cordate

appearance with its apex truncate; metathorax scabrous, opaque black, the elevated lines well defined, the central area rather small, elongate, narrow, rounded in front and truncate behind. Wings nearly hyaline; nervures fuscous, pale testaceous at base, stigma and most of the costa fulvous; areolet 5-angular. Legs bright yellow; anterior coxæ black above, yellow beneath, intermediate pair almost entirely yellow, having a black stripe on the exterior side. posterior pair entirely black; posterior side of the four anterior femora with a broad black vitta margined above with pale ferruginous, posterior femora, except extreme base and apex, and the apical half of their tibiæ, black. Abdomen dull rufous, subopaque; basal segment black, bilineated, faintly aciculate, with a subobsolete rufous dot at the extreme tip; on each side of the second segment at base a somewhat obliquely impressed fovea; a black mark occupies nearly the basal half of this segment, the posterior margin being concave and leaving an obtuse lobe on each side not touching the lateral margin of the segment; basal margin of the four following segments black, that on the third segment slightly and gradually dilated on the disk, that on the fourth and fifth segments suddenly and broadly dilated on the disk reaching the middle of the segments, that on the sixth segment small; the apical segment entirely rufous; beneath pale rufous, stained with yellowish on the middle of the second, third and fourth segments. Length $6\frac{1}{2}$ lines; expanse of wings 11 lines.

Hab.—Rocky Mountains, Colorado Territory.

44. *Ich. vultus*, n. sp.

Black; face bright yellow; legs and abdomen rufous; wings subhyaline; central area of metathorax rather large, lunate.

Male.—Black, finely and densely punctured; face beneath the antennæ, orbits, interrupted behind, clypeus and spot on mandibles, bright yellow; palpi pale; antennæ more than half the length of the body, porrect, black, opaque, basal joint beneath yellowish. Thorax shining; tegulæ, a dot before them and the apical half of the scutellum pale honey-yellow; scutellum rather flat, polished; metathorax densely punctured, the elevated lines sharply defined, the central area rather large, lunate, transverse, rounded in front and indented behind. Wings subhyaline, slightly tinged with fuliginous; nervures and stigma fuscous; areolet 5-angular or subtriangular. Legs rufous, tibiæ and tarsi tinged with yellow, the coxæ, trochanters and the apex of the posterior tibiæ,

black. Abdomen elongate, finely and closely punctured, shining, rufous, base of petiole blackish; basal segment not much dilated, bilineated, the disk with a shallow fovea; basal foveæ of the second segment deep and oblique; basal incisures of the 3rd and 4th segments blackish; apical segments smooth and polished, the last one tinged with yellowish. Length 4 lines; expanse of wings $6\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

45. *Ich. fuscifrons*, n. sp.

Black; face dark brown, basal half of antennæ, two spots on metathorax, legs and abdomen rufo-fuscous; scutellum and middle of antennæ white; wings hyaline; central area of metathorax rather large and subquadrate.

Female.—Head black, the face beneath the antennæ, the frontal orbits, the clypeus and mandibles, dark brown; palpi paler; antennæ about half the length of the body, the 8 basal joints rufo-fuscous, the 7 following white and the remainder black above, fuscous beneath. Thorax black, clothed with short yellowish-sericeous pubescence; the tegulæ, a spot before and another beneath the posterior wings, rufous; a short line beneath the anterior wings and the scutellum, yellowish-white, the latter rather flat, polished; metathorax densely punctured, opaque, with a dull rufous spot on each side, the elevated lines sharply defined, the central area large, subquadrate, slightly elongate. Wings hyaline, nervures fuscous, stigma pale testaceous, areolet 5-angular. Legs pale rufo-fuscous, the intermediate coxæ yellowish beneath. Abdomen elongate, rufo-fuscous; a small spot on each side of the first segment at tip, an obsolete spot on each side of the third segment posteriorly and the disk of the two apical segments, yellowish; basal segment with the peduncle black, rather slender; apical segments smoother and somewhat shining. Length 6 lines; expanse of wings 9 lines.

Hab.—Illinois. Dr. Samuel Lewis.

46. *Ich. funestus*, n. sp.

Black; head varied with dull rufous; antennæ with a white annulus; scutellum yellow; abdomen rufo-fuscous; wings hyaline; central area of metathorax large, quadrate.

Female.—Head black, the orbits (yellowish in front), and the lower part of cheeks, dull rufous; antennæ short, involute, black, 9th to 15th joints white. Thorax feebly punctured, shining, black; beneath the anterior wings a short yellowish line; scutellum flat, polished, yellow, with a yellow spot behind; metathorax finely punctured, the elevated

lines well defined, the central area large, quadrate, slightly transverse. Wings subhyaline, faintly tinged with fuliginous; nervures fuscous; stigma fulvous; areolet 5-angular or subtriangular. Legs black, the tibiæ piceous and the tarsi ferruginous. Abdomen robust, strongly arcuated, rufo-fuscous, polished towards the apex; basal segment blackish, bilineated, finely aciculate; basal foveæ of the second segment rather deep and coarsely aciculate; ovipositor not exerted. Length 5 lines; expanse of wings $8\frac{1}{2}$ lines.

Hab.—Pennsylvania. Mr. J. H. B. Bland.

To this Section also belongs *Ich. grandis* Brullé, *Ich. devinctor* Say (= *tibialis* Brullé), and *Ich. succinctus* Brullé, the first of which is unknown to me.

SECTION 7—b.

47. *Ich. seminiger*, n. sp.

Dull rufous; apex of antennæ, thorax beneath, metathorax and basal margin of 3rd and 4th abdominal segments, black; scutellum yellow; wings subhyaline; central area of metathorax large, subquadrate.

Female.—Dull rufous. Head: palpi pale; antennæ about half the length of the body, involute, the 1st to 8th joints rufous, sometimes fuscous, the 9th to 15th joints whitish or yellowish, the remainder blackish or brownish, the basal joint beneath always rufous. Thorax finely punctured, shining, black; the mesothorax above dull rufous; scutellum flat, polished, yellow; metathorax finely punctured, black. The elevated lines well defined, the central area large, subquadrate, truncate in front and deeply indented behind. Wings subhyaline, slightly and uniformly stained with fuscous; nervures fuscous, paler at base; stigma pale fulvous; areolet 5-angular, rather oblique. Legs rufous, shining, coxæ black, the four anterior ones occasionally reddish beneath. Abdomen rather short, robust; basal segment broad, bilineated, finely aciculate, and having a small round yellowish spot on each side, sometimes obsolete or wanting; petiole black; basal foveæ of the second segment small, not deep; basal margin of the third and fourth segments above narrowly black; apical segments smoother than the basal ones; ovipositor not exerted. Length $5\frac{1}{2}$ lines; expanse of wings $9\frac{1}{2}$ lines.

Hab.—Mass., N. J., Penn., Virginia.

Allied to *Ich. suturalis* Say, but differs by the tricolored antennæ,

by the thorax beneath and the metathorax being black, and by the central area of the latter being quadrate and not at all elongate.

48. *Ich. discus*. n. sp.

Black: face, mesothorax, scutellum, legs and abdomen, except sutures, fulvo-ferruginous: wings subhyaline: central area of metathorax large, quadrate.

Male.—Head black, shining; face beneath the antennæ, frontal orbits, clypeus and mandibles, except base and apex, yellowish-fulvous; palpi yellowish; antennæ about half the length of the body, black, the basal joint beneath fulvous. Thorax black, closely punctured, shining, the disk above, and a spot before the wings, obscure ferruginous; scutellum rather flat, smooth and shining, yellowish-ferruginous; metathorax opaque black, the elevated lines well defined, the central area large, quadrate, slightly transverse. Wings subhyaline, slightly stained with fuliginous; nervures blackish, testaceous at base, stigma fuscous; areolet 5-angular. Legs fulvous above, yellow beneath; the coxæ and a spot on the trochanters, black, the four anterior coxæ with a large yellow spot beneath. Abdomen ferruginous, darker towards the apex; basal segment black, distinctly bilineated, and having an obscure ferruginous spot at the extreme tip; basal margin of the second and three following segments narrowly black, the second and third segments above paler ferruginous than the others; beneath, the segments are dull ferruginous, stained with fuscous on the disk of the second, third and fourth segments. Length 6 lines; expanse of wings 10 lines.

Hab.—Rocky Mountains, Colorado Territory.

49. *Ich. subrufus*. n. sp.

Dull rufous: tips of antennæ, pectus, pleura, metathorax and coxæ black; scutellum and basal portion of antennæ tinged with yellowish; wings fusco-hyaline: central area of metathorax obsolete.

Female.—Dull rufous; antennæ about half the length of the body, involute at tip, the 17 basal joints submoniliform, rufous, golden sericeous, apical joints black. Thorax finely punctured, shining, black; the collar and mesothorax rufous, the latter slightly stained on the disk in front with fuscous; scutellum rather flat, polished, yellowish-ferruginous; metathorax black, finely punctured, the elevated lines not distinct, the central area obsolete. Wings fusco-hyaline with a yellowish tinge; nervures fuscous, paler at base; stigma fulvous; areolet 5-angular. Legs pale rufous, the coxæ black. Abdomen elongate; basal

segment broad, bilineated, finely aciculate; basal foveæ of the second segment oblique, not deep; terminal margins of the segments with an indistinct darker stain; apical segments smooth and polished; beneath slightly tinged with yellowish; ovipositor not exerted. Length 7 lines; expanse of wings $10\frac{1}{2}$ lines.

Hab.—Virginia. Dr. Thos. B. Wilson.

Allied to *Ich. seminiger*, but differs by being larger and more elongate, by the bicolored antennæ, by the central area of the metathorax being obsolete, and by the abdomen being entirely rufous.

50. *Ich. vicinus*, n. sp.

Dull rufous; antennæ tricolored; scutellum yellowish-white; sutures of the thorax and of the third and fourth segments of abdomen black; wings clear; central area of metathorax rather large, elongate-quadrate.

Female.—Dull rufous, approaching brown, shining; antennæ about half the length of the body, slightly involute, the 1st to 8th joints rufous, the 9th to 14th white above, spotted with rufous beneath, apical joints blackish. Thorax feebly punctured, the sutures of the pleura, the surface beneath between the four anterior legs, and the spaces on each side of scutellum, blackish; scutellum rather flat, polished, pale yellow; metathorax finely punctured, the elevated lines distinct, the central area large, longitudinally quadrate. Wings almost hyaline; nervures fuscous, testaceous at base; stigma pale fulvous; areolet 5-angular. Legs rufous, the basal third of the posterior femora and tips of their tibiæ black. Abdomen elongate, subovate; basal segment almost smooth, shining, bilineated, indistinctly aciculate; basal foveæ of the second segment oblique and scarcely impressed; basal margin of the third and fourth segments above narrowly black; apical segments smooth and polished; ovipositor not exerted. Length 5 lines; expanse of wings 8 lines.

Hab.—Illinois. Dr. Samuel Lewis.

Resembles *Ich. seminiger*, but not so robust, the thorax above and beneath and the metathorax is rufous, not black, and the basal segment of abdomen not so broad as in that species.

51. *Ich. rutilus*, n. sp.

Pale rufous; antennæ fuscous, with a broad whitish annulus; incisures of thorax blackish; scutellum white; wings subhyaline; central area of metathorax large, subquadrate.

Female.—Pale rufous; frontal orbits yellowish; clypeus rather large,

truncate in front, with a deep puncture on each side; its apical two-thirds, as well as the mandibles, blackish; palpi dusky; eyes prominent; antennæ as long as the body, fuscous, the base of the 3 or 4 basal joints rufous, the 9th to 13th joints white, basal joint beneath entirely rufous. Thorax densely punctured, dull rufous, tinged with brown, the incisures blackish; the dorsal lines scarcely impressed; a dot before and a line beneath the anterior wings, yellow; scutellum flattened, pale yellowish-white, polished, the space on each side blackish, as well as the postscutellum except a small rufous spot beneath the scutellum; metathorax densely punctured, pale rufous, tinged laterally with yellowish, the elevated lines tolerably well defined, the central area large and subquadrate, the lateral tubercles strongly developed and subacute, the incisure at the base of the posterior coxæ and abdomen, black. Wings subhyaline, faintly tinged with fuscous; nervures and stigma pale fulvous; areolet large, 5-angular. Legs rufous, extreme tips of the posterior femora, apical half of their tibiæ and the basal and apical joints of their tarsi, black. Abdomen short, ovate, flattened above, shining at tip; basal segment longer than the second, strongly arcuated, flattened, broad at tip, somewhat bilineated; basal foveæ of the second segment rather large and deep; extreme apical segment obsolete tinged with yellowish; ovipositor black, exerted about one line. Length 5 lines; expanse of wings $8\frac{1}{2}$ lines.

Hab.—Virginia. Dr. Thos. B. Wilson.

Resembles *Ich. vicinus*, but is more robust, and is at once distinguished from that species by the prominent tubercles on the metathorax.

52. *Ich. annulipes*. n. sp.

Rufous, the thorax blackish; antennæ with a white annulus; scutellum yellow; wings clear; central area of metathorax obsolete; tibiæ with a yellow band.

Female.—Yellowish-rufous, finely punctured, shining; palpi pale yellowish; antennæ half the length of the body, involute, blackish, the 9th to 14th joints white, basal joint robust, rufous. Thorax blackish, the disk of the mesothorax and a sutural line before the wings rufous; tegulæ and a short line beneath the wings yellowish; scutellum flat, polished, yellow, with a transverse yellow spot behind it; metathorax densely punctured, deeply impressed behind, black, the posterior angles

rufous, the elevated lines and central area obsolete, the latter almost entirely so. Wings hyaline, very faintly tinged with fuliginous, iridescent; nervures and stigma fuscous, the latter paler; areolet 5-angular. Legs yellowish-rufous; trochanters and band on the tibiæ, subobsolete on the two anterior pairs and very distinct on the posterior pair, yellow; posterior coxæ, femora and base and apex of their tibiæ, piceous. Abdomen subovate, shining, pale rufous; basal segment rather broad, bilineated, basal foveæ of the 2nd segment obsolete; apical segments smooth and polished, the last segment with a yellowish tinge; ovipositor not exerted. Length $3\frac{1}{2}$ lines; expanse of wings 6 lines.

Hab.—Delaware. Dr. T. B. Wilson.

53. *Ich. pusillus*, n. sp.

Yellowish-rufous, the thorax partly blackish; antennæ with a white annulus; scutellum and subobsolete bands on tibiæ, yellowish; wings clear; central area of metathorax obsolete.

Female.—Yellowish-rufous, rather slender, shining; antennæ more than half the length of the body, involute, rufo-piceous, the 9th to 15th joints white, basal joint robust, rufous. Thorax pale rufous above, blackish beneath; scutellum flat, polished, yellow, with a rufous spot behind; metathorax densely punctured, blackish, rufous behind, the elevated lines and central area obsolete. Wings hyaline, iridescent; nervures and stigma fuscous, the latter paler; areolet 5-angular. Legs yellowish-rufous, all the tibiæ with a subobsolete yellow band, more obvious on the posterior pair. Abdomen elongate-subovate, polished, yellowish-rufous, the last segment tinged with yellow; ovipositor not exerted. Length $2\frac{1}{2}$ lines; expanse of wings $4\frac{1}{2}$ lines.

Hab.—Delaware. Dr. T. B. Wilson.

Closely allied to *Ich. annulipes*, but is smaller, much less robust, and paler in color, with the antennæ rather longer.

54. *Ich. longulus*, n. sp.

Yellowish-ferruginous; face and scutellum, yellow; incisures of abdomen above black; wings subhyaline; central area of metathorax rather large, quadrate.

Male.—Yellowish-ferruginous, subopaque; face beneath the antennæ, clypeus, labrum, mandibles and lower part of the cheeks, yellow; antennæ porrect, half as long as the body, black, basal joint yellowish-ferruginous, paler beneath. Thorax polished, sparsely punctured; metathorax slightly stained with fuscous; tegulæ, a sutural line before

and a short line beneath the wings, yellowish; scutellum rather convex, yellow, polished, the space on each side blackish; metathorax indistinctly punctured, opaque, the elevated lines indistinct, central area rather large, quadrate, not well defined. Wings fusco-hyaline, with a slight violaceous reflection; nervures fuscous, testaceous at base, stigma fulvous; areolet 5-angular. Legs yellowish-ferruginous varied with yellow; tips of posterior tibiæ blackish. Abdomen very elongate, rather slender; basal segment distinctly bilineated and finely aciculate; basal foveæ of the second segment deep and oblique; the third and three following segments each with a narrow black fascia at base above; apical segments smoother; beneath yellowish-ferruginous, the middle of the segments stained with yellowish. Length 7 lines; expanse of wing 10 lines.

Hab.—Rocky Mountains, Colorado Territory.

Resembles *Ich. propinquus*, but the color is paler, the form much more elongate and slender, and the antennæ almost entirely black. It is possible, however, that it may be the male of that species.

55. *Ich. propinquus*, n. sp.

Reddish-fulvous; apical half of antennæ, sutures of the thorax and the basal margin of 2nd, 3rd and 4th abdominal segments, black; wings fusco-hyaline; central area of metathorax moderate, quadrate, rather transverse.

Female.—Bright reddish-fulvous, shining, very minutely punctured; antennæ half the length of the body, involute, apical half blackish. Thorax: the mesothorax shining; a line on the collar above, the sutures of the pleura and the spaces on each side of the scutellum, black; scutellum slightly convex, polished, tinged with yellowish; metathorax finely punctured, the elevated lines tolerably distinct, the central area moderate, quadrate, slightly transverse. Wings fusco-hyaline, with a slight yellowish tinge; nervures fuscous, pale at base, stigma fulvous; areolet 5-angular. Legs bright fulvous, polished, basal sutures of the coxæ blackish. Abdomen elongate-subovate, rather robust; basal segment distinctly bilineated, finely aciculate; basal foveæ of the 2nd segment small, black, as well as the margin between them; 3rd and 4th segments with a narrow black band at base; apical segments smooth and polished; beneath tinged with yellowish; ovipositor not exerted. Length 6½ lines; expanse of wings 11 lines.

Hab.—Rocky Mountains, Colorado Territory.

Closely resembles *Ich. suturalis* Say, but is at once distinguished from that species by the slightly transverse subquadrate central area of the metathorax. I have before me numerous specimens of *suturalis* from Mass., N. Y., N. J., Penn., Del., Va., and Illinois, and all of them have the central area large and elongate; they vary in the black sutural bands of the abdomen being sometimes indistinct, and at other times broad, especially that on the 4th segment.

56. *Ich. subfuscus*, n. sp.

Reddish-brown: face, basal half of antennæ, and scutellum tinged with yellowish; apical half of antennæ, sutures of thorax, and base of 2nd and 3rd abdominal segments, blackish; wings fusco-hyaline; central area of metathorax large, elongate.

Female.—Reddish-brown; the face and frontal orbits tinged with yellowish; antennæ two-thirds the length of the body, slender, the basal half pale rufous, the remainder black. Thorax finely and indistinctly punctured, the mesothorax polished, the pleura indistinctly aciculate; all the sutures, except those in front of the wings, blackish; scutellum flat, polished, tinged with yellowish, the space on each side, including the postscutellum, blackish; metathorax densely and finely punctured, the elevated lines well defined, the central area large and elongate. Wings long, fusco-hyaline; nervures fuscous, testaceous at base, stigma fulvous; areolet 5-angular. Legs rufo-fuscous, the posterior tibiæ at tip blackish. Abdomen rather short, robust, shining, very minutely punctured; first segment rather broad, bilineated and finely aciculate, petiole moderate, blackish at base; basal foveæ of the 2nd segment small, slightly impressed, coarsely aciculate and blackish; base of the 3rd and 4th segments above with a blackish band not reaching the lateral margins, that on the 4th segment occupies almost the basal half and is twice as broad as that on the 3rd segment; apical segments polished; beneath same color as above, the apical margins of the segments with a darker stain; ovipositor subexserted. Length 6 lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

This species is allied to *Ich. suturalis* Say and *Ich. propinquus* n. sp.; from the former it differs by the darker color, the longer antennæ and wings, and the more robust form; from *propinquus* it differs by the darker color, the longer antennæ and in the shape of the central area of the metathorax.

57. *Ich. brevipennis*, n. sp.

Reddish-brown; sutures of thorax and abdomen blackish; wings short, subhyaline; central area of metathorax small, transversely subquadrate.

Female.—Reddish-brown, robust; antennæ darker towards the tip, involute, about half the length of the body. Thorax densely and finely punctured; the sutures beneath and on each side of the scutellum, blackish; scutellum flat, polished, tinged with yellowish; metathorax finely punctured, the elevated lines tolerably distinct, the central area rather small and transversely subquadrate. Wings short, subhyaline, slightly tinged with fuliginous, the posterior pair clear; nervures fuscous, stigma fulvous; areolet 5-angular or subtriangular. Legs stout, reddish-brown, the posterior tibiæ at tips and their tarsi obfuscated. Abdomen rather short, robust; basal segment broad, finely aciculate; basal foveæ of the 2nd segment transverse, indistinctly impressed; basal margin of the 2nd, 3rd and 4th segments above, narrowly black; the basal and two or three apical segments paler in color than the rest; ovipositor reddish, exerted about $1\frac{1}{2}$ lines. Length $5\frac{1}{2}$ lines; expanse of wings $7\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

In color, this species resembles *Ich. subfuscus*, but is readily distinguished by its much shorter wings.

58. *Ich. sandix*, n. sp.

Yellowish-rufous, thorax beneath blackish, antennæ tricolored; wings dark fuscous; central area of metathorax moderate, subquadrate.

Female.—Dull yellowish-rufous, rather shining, feebly punctured; antennæ two-thirds as long as the body, slightly involute at tip, basal joints pale rufous, the middle yellowish, the apical joints blackish. Thorax above rufous, beneath black; pleura with a rufous spot, tegulæ and scutellum rufous, the latter flat and polished, the space on each side blackish; metathorax rufous above, black beneath, densely and rather roughly punctured, profoundly impressed behind, the elevated lines well defined, the central area moderate transversely subquadrate, not well defined. Wings dark fuscous, with a strong æneous reflection; nervures black, stigma brown; areolet 5-angular. Legs rufo-fulvous, coxæ black, the posterior pair tinged with rufous behind. Abdomen rather short, ovate, subdepressed, basal segment broad, bilineated and slightly aciculate, peduncle slender; basal foveæ of the second seg-

ment small, subobsolete, apical segments slightly obfuscated; ovipositor not exerted. Length 6 lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—New York. Mr. James Angus.

59. *Ich.?* *trogiformis*, n. sp.

Dull rufous, thorax beneath and metathorax blackish; antennæ finely subserrate, with a yellowish annulus; wings blackish-violaceous; segments of the abdomen strongly contracted at incisures.

Male.—Head large, transverse, subquadrate, slightly broader than the thorax, rufous, paler in front, feebly punctured, shining; clypeus polished; mandibles with a yellowish spot; antennæ more than half the length of the body, porrect, finely subserrate, black above, brown beneath, the four basal joints rufous, the 14th to 20th joints yellow, apical joints gradually attenuated. Thorax densely, deeply and confluent punctured, the mesothorax and a large irregular stain on the pleura, rufous; remainder of the pleura and the metathorax black, the latter sometimes tinged with rufous; the collar and scutellum tinged with yellowish, the latter rather convex; metathorax scabrous, the elevated lines obsoletely defined, the central area small, elongate, subobsolete. Wings ample, blackish-violaceous; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular, rather oblique, the 2nd recurrent nervure with a process in the middle. Legs moderately long and slender, pale rufous, the tibiæ and tarsi tinged with yellowish; posterior coxæ black, their femora obfuscated. Abdomen elongate, not broad, the apex incurved, densely and profoundly punctured; the segments strongly contracted at the incisures as in the genus *Trogus*; rufous; basal segment not much dilated, subconvex, deeply punctured, with a depression on each side at tip, petiole rather short and stout, blackish; basal foveæ of the 2nd segment small, rather deep; the apical segments have the punctures gradually finer, and the last two are smooth, shining and yellowish-sericeous; beneath tinged with yellowish. Length 6 lines; expanse of wings 10 lines.

Hab.—New Jersey. E. T. Cresson.

This singular insect probably does not belong to this genus; in general appearance it resembles that of *Trogus*, but the head is much larger, the antennæ are shorter and subserrate, the areolet of the wings differently shaped, the scutellum not elevated, and the abdomen not so broad. The structure does not satisfactorily agree with that given of

Pristiceros, the principal character of which seems to be the serrate antennæ.

60. *Ich. rubicundus*, n. sp.

Pale rufous; antennæ with a whitish annulus: wings subhyaline: central area of metathorax moderate, subquadrate.

Female.—Entirely pale rufous, densely punctured, subopaque; face short; antennæ rather short, rufous at base, whitish in the middle and piceous at tip; scutellum slightly convex, polished; metathorax shining, finely punctured, the elevated lines tolerably well defined, the central area moderate, elongate-subquadrate, polished. Wings subhyaline, the anterior pair rather strongly fuliginous, posterior pair paler and iridescent; nervures and stigma blackish, the latter whitish at base; areolet 5-angular, the 2nd recurrent nervure angulated. Legs color of the body, the tarsi obfuscated, tips of the posterior femora and tibiæ sometimes blackish. Abdomen rather stout, densely punctured; basal segment rather broad, indistinctly bilineated and finely aciculate; basal foveæ of the 2nd segment obsolete; apical segments darker, smooth and polished; ovipositor not exerted. Length $3\frac{1}{4}$ lines; expanse of wings $5\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

61. *Ich. lævigatus*, n. sp.

Rufo-ferruginous, shining; antennæ with a broad yellowish annulus: wings clear; central area of metathorax large, irregularly subquadrate.

Female.—Entirely rufo-ferruginous, smooth and shining; face beneath the antennæ tinged with yellowish; antennæ short, slightly involute, basal joint rufous, 2nd to 7th piceous, 8th to 13th yellow, remaining joints blackish above, rufo-piceous beneath. Thorax finely punctured, somewhat flattened on the disk above; scutellum flat, polished, slightly tinged with yellowish; metathorax somewhat roughly punctured, subopaque, the elevated lines well defined, the central area large, irregular, slightly transverse. Wings almost hyaline, very faintly tinged with fuliginous; nervures blackish, fuscous at base, stigma rather large, black; areolet 5-angular. Legs short and rather stout, color of the body, clothed with very short yellowish pubescence. Abdomen rather short, stout, smooth and polished; basal segment not much dilated, rather convex, minutely and obsoletely aciculate, lateral margins carinated, deeply incised at tip; basal foveæ of the second seg-

ment very transverse and rather deeply impressed; incisures of the segments somewhat fuscous; ovipositor not exerted. Length 4 lines; expanse of wings 6 lines.

Hab.—Rocky Mountains, Colorado Territory.

62. *Ich. dorsalis*, n. sp.

Black; middle of face, mesothorax, scutellum and abdomen, rufous; wings dark fuscous; central area of metathorax large, transversely subquadrate.

Female.—Head black, shining, middle of the face, clypeus, mandibles, narrow frontal orbits, and the vertex and occiput, rufous; antennæ as long as the thorax, involute, brown, beautifully golden-sericeous, blackish towards the base, basal joint robust, black, shining. Thorax black, the whole of the mesothorax above and the scutellum rufous, the latter slightly convex, depressed and flattened in front and connected with the mesothorax on each side by a sharp carina; post-scutellum with an obsolete rufous spot; metathorax scabrous, opaque black, the elevated lines sharply defined, the central area large, transversely subquadrate, the posterior margin bent inwards. Wings fuscous, with a violaceous reflection; nervures black, the stigma rufous at base; areolet 5-angular. Legs shining black, the extreme base and apex of the femora, and the tibiæ and tarsi, rufous, the tibiæ varied with rufo-piceous. Abdomen short, robust, rufous, the petiole rather slender, black; first segment bilineated and finely aciculate; basal foveæ of the second segment transverse, rather deep, this and the third segment above subopaque, very densely punctured, the remaining segments shining, the punctures less distinct; beneath, the segments, excepting the first, are rufous with their middle obfuscated. Length 6 lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

63. *Ich. Lewisii*, n. sp.

Cinnamon-brown; the pleura, metathorax, coxæ and the first and base of third segments of abdomen black; antennæ tricolored; wings dark fuscous; central area of metathorax large and subquadrate.

Female.—Head cinnamon-brown, palpi paler; antennæ more than half the length of the body, slightly involute, basal joint pale rufous, gradually shading into pale yellow, which color extends to the 18th joint, beyond which the joints are blackish above and dull rufous beneath. Thorax black, the mesothorax above, as well as the scutellum,

dark brown, the latter polished, slightly convex and impressed anteriorly; metathorax scabrous, black, elevated lines not well defined, the central area large, subquadrate and somewhat transverse. Wings dark fuscous with a strong violaceous reflection; costa and stigma except tip fulvous, nervures blackish; areolet 5-angular. Legs pale brown, the coxæ and trochanters black. Abdomen ovate, rather short and broad, cinnamon-brown, subopaque; basal segment broad, very much dilated, confluent punctured and having a tubercle on each side; peducle slender; basal foveæ of second segment shallow; apical segments smoother and pilose; beneath, the second and following segments are cinnamon-brown, obfuscated on their middle; ovipositor not exerted. Length $6\frac{1}{2}$ lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Illinois. Dr. Samuel Lewis.

The following species also seem to belong to this Section:—*Ich. suturalis* Say, *Ich. Larix* Curtis, *Ich. ferrugator* Kirby, *Ich. duplicatus* Say, *Ich. residuus* Say, *Ich. hilaris* Say, *Ich. bifasciatus* Say and *Ich. pennator* Fab., all of which are unknown to me except the first.

SECTION 8.

64. *Ich. regnatrix*, n. sp.

Large, black; antennæ with a white annulus; wings blackish; central area of metathorax small, elongate, conical; abdomen excepting basal segment rufous.

Female.—Black, subopaque, thinly clothed with short black pubescence. Head entirely black, sometimes the frontal orbits above the antennæ are narrowly white; clypeus shining, with a deep, rounded fovea on each side; antennæ short, black, the apical half involute, flattened towards the tip, the 10th to 16th joints above white, beyond this the joints beneath are sometimes tinged with rufous. Thorax closely punctured, the mesothorax in front with an impressed line on each side not reaching the disk; scutellum black, convex, punctured, shining; metathorax densely and confluent punctured, somewhat scabrous, opaque, the elevated lines well defined, central area small, conical, elongate. Wings blackish-fuscous, with a rather strong violaceous reflection; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular, slightly oblique. Legs black, the anterior tibiæ whitish in front. Abdomen elongate-subovate, minutely punctured, opaque rufous, the segments strongly incised and compressed at

the sutures as in the genus *Trogus*; basal segment black, broad at the apex, bilineated, confluent punctured; basal foveæ of the second segment very deep, transverse, slightly oblique and strongly aciculate; the two apical segments clothed above with rufous pubescence, as well as the ventral segments which are also rufous, shining. Length 11—12 lines; expanse of wings 17—19 lines

Hab.—Penn., Del., Va. Dr. T. B. Wilson.

A fine, large species, probably the same as Say's variety of his *Ich. devinctor* with black scutellum and legs, but in that species the scutellum is flat, the central area of the metathorax is large and subquadrate, the abdomen more smoothly and finely punctured and the segments not contracted at their sutures as in *regnatrice*.

This species seems very close to *Ich. grandis* Brullé, but among a dozen individuals I cannot find one with a yellow spot on the scutellum, as is mentioned by Brullé.

Ich. tibialis Brullé seems to be identical with *Ich. devinctor* Say.

65. *Ich. semicoccineus*, n. sp.

Black, face yellow, wings dark fuscous, abdomen bright rufous, central area of metathorax moderate, transverse.

Male.—Head black, the face beneath the antennæ, narrow frontal orbits, clypeus, a spot on mandibles and the palpi yellow, the face with a large black spot on its middle, sometimes reduced to a mere dot; antennæ porrect, more than half the length of the body, black, brownish beneath towards the tip, basal joint beneath yellow. Thorax black, shining, finely and sparsely punctured; scutellum slightly convex, polished, black, deeply impressed in front; metathorax somewhat scabrous, the elevated lines well defined, the central area transverse, moderate, its margin smooth and shining. Wings blackish-fuscous, with a strong æneous reflection; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular, slightly oblique. Legs black, the anterior and intermediate tibiæ yellowish in front. Abdomen elongate, sublinear, bright rufous, opaque, the segments strongly incised; the basal segment black, slender, rather broad at tip, bilineated; basal foveæ of the second segment deep; beneath, the segments are yellowish-ferruginous. Length 8 lines; expanse of wings $12\frac{1}{2}$ lines.

Hab.—Delaware and Virginia. Dr. Thos. B. Wilson.

66. *Ich. californicus*, n. sp.

Black, the legs and abdomen brown; wings dark fuscous, with a violet reflection; central area of metathorax narrow, transverse.

Male.—Black, subopaque; clypeus polished, mandibles and palpi piceous; antennæ porrect, more than half the length of the body, black, tinged with piceous beneath. Thorax finely punctured; scutellum convex, shining; metathorax confluent punctured, the elevated lines well defined, the central area narrow, transverse. Wings dark fuscous, with a violaceous reflection; nervures and stigma black, areolet 5-angular. Legs brown, shining, the anterior pair paler in front, the coxæ and posterior tarsi black. Abdomen elongate, compressed, opaque dark brown, densely punctured; basal segment black, bilineated and finely aciculate; basal foveæ of second segment deep, transverse and oblique, near the tip of this segment is a triangular impression; apical segments smoother and somewhat shining; beneath pale brown. Length 7 lines; expanse of wings 11 lines.

Hab.—California. Dr. Geo. H. Horn.

67. *Ich. incertus*, n. sp.

Black; antennæ with a whitish annulus; legs and abdomen rufous; wings violaceous-black; central area of metathorax transversely subquadrate.

Female.—Head and thorax black, finely and densely punctured, shining; clypeus polished, with a deeply impressed fovea on each side and a slight one on its middle; antennæ more than half the length of the body, porrect, 11th to 15th joints white, tinged with ferruginous exteriorly, apical joints beneath rufous. Thorax with an impressed line on each side of the disk anteriorly; tegulæ black; scutellum convex, polished, black; postscutellum with two deep punctures; metathorax densely and rather roughly punctured, the elevated lines tolerably well defined, the central area moderate, transversely subquadrate. Wings ample, blackish-fuscous, with a deep violaceous reflection; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular, with 5 small hyaline spots on each side and 3 below. Legs rufous, the coxæ and trochanters black, the four posterior tarsi piceous. Abdomen robust, subovate, shining, rufous, petiole black; basal segment broad, bilineated and finely aciculate; basal foveæ of the second segment deep and oblique; apical segments polished; ovipositor not exerted. Length $6\frac{1}{2}$ lines; expanse of wings 12 lines.

Hab.—New Jersey. E. T. Cresson.

Closely resembles *Ich. rufiventris* Brullé, of which it may be a variety, but the annulus of the antennæ is larger, the central area of metathorax is smaller and less quadrate, and the legs and the basal segment of the abdomen are rufous instead of black. The size and general appearance is much the same in both species.

68. *Ich. virginicus*, n. sp.

Black; antennæ with a white annulus; abdomen rufous; wings hyaline; central area of metathorax small, conical, polished.

Female.—Head large, black, face short, densely punctured, clothed with pale pubescence, prominent in the middle, with a small tubercle beneath the insertion of each antenna; frontal orbits, interrupted on each side of the antennæ, yellowish; clypeus short and very transverse, with a deep fovea on each side, apical margin depressed, smooth and tinged with rufo-piceous; mandibles large, black, polished; palpi yellowish-white; antennæ short, involute, black, 7th to 18th joints above white, apical joints beneath tinged with rufous, basal joint very robust, remaining joints short, submoniliform. Thorax black, shining, closely punctured, clothed with a very fine pale glittering pubescence; tegulæ piceous, before which there is a short, narrow white line; scutellum black, rather flat, densely punctured; metathorax black, densely and strongly punctured, the elevated lines well defined, the central area rather small, subconical, smooth and polished. Wings clear, nervures and stigma black, areolet 5-angular or subtriangular, rather oblique, the 2nd recurrent nervure angular. Legs short and stout, black, the tibiæ and tarsi piceous, clothed with very short, sparse, yellowish pubescence; femora short and thick. Abdomen short, subovate, slender at base, finely punctured, shining, rufous, the petiole blackish; basal segment bilineated, densely and rather deeply punctured; basal fovea of the second segment small, not deep; apical segments polished; ovipositor not exerted. Length 6 lines; expanse of wings 10 lines.

Hab.—Virginia. Dr. Thos. B. Wilson.

This may be identical with *Ich. detritus* Brullé, but is rather doubtful. It is however distinct from any other species known to me.

69. *Ich. Syphax*, n. sp.

Black, glossy; antennæ involute, with a whitish annulus; wings subhyaline; abdomen ferruginous; central area of metathorax large, quadrate.

Female.—Head and thorax black, shining, closely punctured; cly-

peus with a deep fovea on each side; antennæ black, slender, involute, the 9th to 14th joints whitish above; scutellum slightly convex, black, polished, impunctured; metathorax finely scabrous, opaque, the elevated lines well defined, the central area large, quadrate and slightly transverse. Wings subhyaline, slightly stained with fuscous; nervures and stigma black, the latter with a pale spot at base; areolet 5-angular. Legs black, shining; the anterior tibiæ and tarsi in front, pale. Abdomen elongate-ovate, ferruginous, convex above especially towards the apex which is polished; basal segment black, rather broad, bilineated and minutely punctured, petiole slender. Length $7\frac{1}{2}$ lines; expanse of wings 11 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

70. *Ich. limbifrons*, n. sp.

Black; lateral margins of the face white; legs and abdomen, except base and apex, rufous; wings subhyaline; central area of metathorax moderate, subconical.

Male.—Black, finely punctured; lateral margins of the face and a spot on each side of the clypeus, white; antennæ more than half the length of the body, porrect, entirely opaque black. Thorax and scutellum entirely black, somewhat shining, the latter slightly convex; metathorax finely punctured, shining, the elevated lines well defined, the central area moderate, subconical, rounded in front, indented behind. Wings subhyaline, tinged with fuliginous and iridescent; nervures and stigma black; areolet subtriangular. Legs rufous, the anterior pair yellowish, the coxæ and trochanters black, the tarsi obfuscated. Abdomen elongate, rather slender, shining, rufous, the petiole, disk of the 5th and the two apical segments, black; basal segment not much dilated, indistinctly bilineated, punctured; basal foveæ of the 2nd segment deep and oblique; beneath colored same as above. Length 4 lines; expanse of wings $5\frac{3}{4}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

71. *Ich. exiguus*, n. sp.

Black, polished; abdomen and legs rufous; wings hyaline; central area of metathorax small, lunate.

Female.—Black, polished, indistinctly punctured; face short, slightly pubescent; mandibles mostly rufous; antennæ short, piceous, basal joint beneath rufous. Thorax smooth and polished; scutellum rather flat;

metathorax finely punctured, the elevated lines well defined, the central area very small, lunate. Wings hyaline, iridescent; nervures and stigma black; areolet 5-angular. Legs rufous; posterior coxæ black. Abdomen short and stout, subovate, smooth and polished, rufous; basal segment broad, obsoletely aciculate; basal foveæ of the 2nd segment obsolete; ovipositor not exerted. Length $2\frac{1}{2}$ lines; expanse of wings $4\frac{1}{2}$ lines.

Hab.—Rocky Mountains, Colorado Territory.

72. *Ich. rufizonatus*, n. sp.

Black; antennæ with a narrow white annulus; wings subhyaline; second and third segments of abdomen ferruginous; central area of metathorax large and quadrate.

Female.—Black, shining; clypeus polished, with a deep fovea on each side; antennæ about half the length of the body, black, sericeous beneath, the 9th to 12th joints white above. Thorax closely punctured; scutellum slightly convex, punctured; metathorax finely scabrous, the elevated lines well defined, the central area large, quadrate, slightly elongate. Wings subhyaline, slightly stained with fuliginous, and having a faint metallic reflection; nervures and stigma black; areolet 5-angular. Legs black, the anterior tibiæ and tarsi in front whitish. Abdomen elongate-ovate, black, convex above and polished towards the apex; basal segment bilineated, minutely punctured, petiole slender; second and third segments ferruginous above and beneath. Length 7 lines; expanse of wings 11 lines.

Hab.—New Jersey. E. T. Cresson.

73. *Ich. involutus*, n. sp.

Black, polished; antennæ strongly involute, legs and the 2nd and 3rd segments of the abdomen rufous; wings fuliginous; central area of metathorax large, quadrate, polished.

Female.—Black, polished, finely punctured; face short; clypeus very transverse, with a large deep puncture on each side; mandibles rufous, cheeks with scattering puncturns; antennæ short, strongly involute, black, apical two-thirds tinged with rufous, and densely clothed with yellowish-sericeous pubescence, basal joint robust, globose, rufous beneath. Thorax closely and finely punctured, indistinctly so on the disk above which is polished; scutellum rather flat, polished; metathorax densely punctured, subopaque, the elevated lines not well de-

fined, the central area large, quadrate, polished. Wings fuliginous; nervures and stigma black; arcolet 5-angular or subtriangular. Legs yellowish rufous, the coxæ tinged with piceous, the tarsi obfuscated at tips. Abdomen stout, subovate, polished, finely and uniformly punctured, indistinctly so at tip; basal segment rather broad at tip, bilineated, black, its extreme apical margin rufous, as well as the whole of the 2nd and 3rd segments except the apical margin of the latter which is blackish; remaining segments black; basal foveæ of the 2nd segment obsolete; beneath as above; ovipositor not exerted. Length 4 lines; expanse of wings 6 lines.

Hab.—Rocky Mountains, Colorado Territory.

Ich. rufiventris Brullé and *Ich. detritus* Brullé also belong to this Section, the last of which is unknown to me.

SECTION 9.

74. *Ich. terminalis*. n. sp.

Rufous, head, mesothorax, pleura and apical segments, except a white spot at tip, blackish; antennæ with a white annulus; scutellum yellow; wings clear; central area of metathorax moderate, subquadrate.

Female.—Head blackish, palpi pale; antennæ about half the length of the body, slightly involute, the basal joints somewhat rufous, the 9th to 14th joints pure white, the apical joints brown-black. Thorax minutely punctured, black, with a large rufous stain on the pleura; tegulæ pale rufous; scutellum flat, polished, pale yellow; metathorax densely punctured, entirely pale rufous, the elevated lines tolerably well defined, the central area subquadrate. Wings hyaline, iridescent; nervures fuscous, stigma pale; arcolet 5-angular or subtriangular, the 2nd recurrent nervure sinuate. Legs pale rufous, tips of the posterior femora and tibiæ blackish, their tarsi obfuscated. Abdomen stout, subovate, pale rufous; petiole slender; basal segment bilineated, polished; 2nd and 3rd segments finely and densely punctured, the basal foveæ of the former obsolete; apical segments smooth and polished; the 4th, except its basal margin, and the remaining segments black; a small spot on the middle of the 6th and the whole of the 7th above, pure white; ovipositor not exerted. Length $3\frac{1}{2}$ lines; expanse of wings $5\frac{1}{2}$ lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

75. *Ich. soror*, n. sp.

Yellowish-rufous; antennæ with a white annulus; scutellum, the four anterior coxæ and a spot on apical segment of abdomen yellowish; wings clear; central area of metathorax moderate, subrotundate.

Female.—Yellowish-rufous, shining; antennæ short, blackish, the 9th to 15th joints white, basal joint beneath rufous. Thorax above slightly tinged with fuscous; tegulæ and a short line beneath the wings, surrounded by a blackish spot, yellowish; scutellum flat, polished, yellowish, with a subobsolete pale spot behind, space on each side blackish; metathorax finely punctured, the elevated lines not well defined, the central area moderate, subrotundate, polished. Wings hyaline, very faintly fuliginous, iridescent; nervures and stigma fuscous, the latter pale at base; areolet 5-angular or subtriangular, the 2nd recurrent nervure sinuate. Legs pale rufous, the four anterior coxæ yellow, the tips of the posterior femora and tibiæ, and their tarsi, blackish. Abdomen robust, subovate, shining; basal segment rather broad, bilineated, polished; 2nd and 3rd segments finely punctured, apical segments polished; last segment above yellow; beneath tinged with yellow; ovipositor not exerted. Length 3 lines; expanse of wings 5 lines.

Hab.—Delaware. Dr. T. B. Wilson.

76. *Ich. velox*, n. sp.

Reddish-brown; antennæ with a broad white annulus; thorax beneath blackish; wings hyaline; central area of metathorax large, quadrate; apical segment of abdomen with a yellow spot.

Female.—Reddish-brown; clypeus and occiput blackish; antennæ about half the length of the body, black, tip slightly involute, the 9th to 16th joints white. Thorax black; mesothorax above brown, as well as the tegulæ, a spot beneath the wings, the scutellum and the anterior margin of the metathorax; scutellum flat, punctured, shining; metathorax finely punctured, the elevated lines well defined, the central area large, quadrate. Wings long, ample, hyaline; nervures fuscous, stigma paler; areolet 5-angular or subtriangular. Legs reddish-brown, the intermediate and posterior femora in part black, the latter almost entirely so. Abdomen elongate-ovate, reddish-brown, subopaque, shining at tip; basal foveæ of the second segment transverse; apical segment with a large yellow spot above; beneath brownish. Length 5 lines; expanse of wings 9 lines.

Hab.—Illinois. Dr. Samuel Lewis.

This species belongs to this Section, and was accidentally omitted in the Table given on page 135; the scutellum and last abdominal segment differs in color from that stated in the Table, which should therefore be amended to read as follows:—

Section 9.—Scutellum yellow or red; abdomen red or red and black, apex white or yellow.....Sp. 74—76

Genus **ISCHNUS**, Grav.

Under this genus, I have placed those species which only differ from *Ichnemon*, in the basal segment of the abdomen being smooth and polished, while those of the latter genus have that segment more or less rugged.

1. *Isch. jejunus*. n. sp.

Black: face, two lines or a spot on mesothorax, and scutellum, white; wings subhyaline; central area of metathorax small, slightly elongate.

Male.—Black; the face beneath the antennæ, orbits, clypeus, spot on mandibles and the palpi, white; antennæ porrect, more than half the length of the body, black, basal joint beneath white. Thorax closely punctured; the tegulæ, a sutural line before and a short line beneath the wings, and two lines or a spot on the disk of mesothorax, white; scutellum flat, punctured, white; metathorax confluent punctured, the elevated lines well defined, the central area small, subconical, rather elongate. Wings subhyaline, slightly tinged with fuscous; nervures and stigma black; areolet 5-angular. Legs black, the two anterior pairs in front, their coxæ beneath, and the base of the posterior tibiæ exteriorly, whitish. Abdomen long and slender, subcylindrical, finely punctured, black with a slight bluish tinge; peduncle slender, the tip of the basal segment only slightly dilated, subconvex, rather smooth and shining; basal foveæ of the second segment small and deep; apical segments smooth and shining. Length 7 lines; expanse of wings 11 lines.

Hab.—Illinois (Dr. Saml. Lewis); Massachusetts (F. G. Sanborn).

2. *Isch. sublatus*. n. sp.

Black; face, scutellum, two spots on metathorax and the four anterior legs, white; wings hyaline; central area of metathorax small, rotundate or slightly subquadrate.

Male.—Head black, the face, orbits very wide on the cheeks, clypeus, mandibles and palpi, white; antennæ porrect, almost as long as the body, black, the basal joint beneath white. Thorax black; a spot

on the disk of mesothorax, the tegulæ, a sutural line before and a short line beneath the anterior wings, a spot beneath the posterior wings, and the collar above, white; scutellum flat, whitish, with a short transverse whitish line behind it; metathorax somewhat finely punctured, shining, a rather large whitish spot on each side behind, the elevated lines well defined, the central area small, rotundate or slightly subquadrate. Wings hyaline, faintly fuliginous at tips; nervures and stigma black; areolet 5-angular. Legs black; the anterior pair, excepting the femora behind, the intermediate pair with the coxæ beneath, the trochanters, the tarsi, and the femora and tibiæ exteriorly, white; the basal half of the posterior tibiæ and tarsi at base, also white. Abdomen elongate, subcylindrical, slender, black, immaculate, minutely punctured, shining; basal segments slender, subconvex, rather smooth; basal foveæ of the second segment small, not deep; beneath black. Length 7 lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Illinois (Dr. Saml. Lewis); Virginia (Dr. T. B. Wilson).

Same form as *Isch. jejunus*, but that species has the antennæ shorter and the metathorax immaculate.

3. *Isch. proximus*. n. sp.

Black; antennæ with a broad white annulus; face, scutellum, two short lines on mesothorax, two spots on metathorax and the anterior legs in part, white; wings hyaline; central area of metathorax small, quadrate.

Male.—Head black; the face beneath the antennæ, broad orbits, clypeus, spot on mandibles, and the palpi, white; antennæ porrect, three-fourths the length of the body, the 17th to 23rd joints, and the basal joint beneath, white. Thorax black, shining, sparsely punctured above, closely beneath; mesothorax with the dorsal lines well impressed; tegulæ, a broad sutural line before and a short one beneath the wings, the collar above and two short lines on the disk of mesothorax, white; scutellum rather flat, smooth and shining, white, as well as a transverse spot behind it; metathorax confluent punctured, black, with two white spots behind, the elevated lines tolerably well defined, the central area small and subquadrate. Wings hyaline; nervures and stigma black; areolet 5-angular. Legs black; anterior and middle pairs with their coxæ beneath, the trochanters, femora, tibiæ and tarsi in front, white, tips of tarsi blackish; posterior pair with their coxæ behind and the extreme two-thirds of their tibiæ, also white. Abdomen

elongate, subcylindrical, black, densely and finely punctured; 1st segment convex above, smooth and polished, not much wider than the peduncle; foveæ of the 2nd segment small; apical segments gradually smoother and more shining; beneath black. Length 7 lines; expanse of wings $11\frac{1}{2}$ lines.

Hab.—Pennsylvania. E. T. Cressou.

Resembles *Isch. sublatus*, and may prove to be a variety of it.

4. *Isch. Wilsoni*, n. sp.

Black; the face, scutellum, legs, and 2nd and 3rd abdominal segments yellow; wings subhyaline.

Male.—Head black; the face beneath the antennæ, orbits, interrupted behind near the summit and broad above base of mandibles, clypeus, mandibles except base and apex, and the palpi, yellow; antennæ slender, more than half the length of the body, porrect, blackish-brown above with a very narrow pale annulus in the middle, covering two or three joints, beneath pale fulvous, darker towards the apex; basal joint beneath yellow. Thorax black, shining, finely punctured, clothed with very short, fine, pale sericeous pubescence; tegulæ, a short sutural line before and another beneath the wings, yellow; scutellum rather convex, polished, yellow; metathorax black, finely punctured, the elevated lines sharply defined, the central area rather small, subquadrate, rather elongate. Wings subhyaline, slightly fuliginous; nervures fuscous, paler at base, stigma pale fulvous; areolet 5-angular. Legs yellow, the posterior coxæ, their femora and tips of their tibiæ black; apical joints of the tarsi often black. Abdomen elongate, subcylindrical, shining, black; basal segment narrow, convex, smooth and polished, petiole slender; on each side of the second segment at base a short longitudinal impressed line; apical segments polished; second and third segments yellow, their extreme apical margins black, somewhat dilated in the middle, apical half of the second segment often stained with pale ferruginous. Length 5—6 lines; expanse of wings $6\frac{1}{2}$ — $8\frac{1}{2}$ lines.

Hab.—Virginia. Dr. Thos. B. Wilson.

5. *Isch. Blandii*, n. sp.

Black; face, orbits, broad annulus on antennæ, lateral margins of thorax and scutellum, apical margins of abdominal segments, and tarsi, white; metathorax and legs in part, reddish; wings hyaline.

Male.—Head black, the face, orbits—broad on the cheeks,—clypeus,

mandibles and palpi, white; antennæ nearly as long as the body, porrect, black, the 15th to 24th joints entirely, and the outer sides of the four following joints, white. Thorax black, finely punctured; sides of the pleura and most of the metathorax rufo-fulvous; a line on the collar extending down on each side, tegulæ, a sutural line before and a short one beneath the wings, two short dorsal lines, and a large patch on the pleura in front and beneath, white; scutellum rather flat, polished, black, the lateral and apical margins, the outer sides of the carina on each side of the scutellum in front, and the postscutellum, white; metathorax finely punctured, rufo-fulvous, the anterior portion above and a quadrate mark behind, blackish, the elevated lines well defined, the posterior ones yellowish, the central area rather large, subelongate. Wings hyaline, apical margins faintly smoky; nervures fuscous, the stigma paler; areolet subtriangular. Legs rufo-fulvous, the 4 anterior coxæ, the trochanters, anterior tibiæ in front and all the tarsi, more or less white; posterior tibiæ and tarsal claws, black. Abdomen elongate, subcylindrical, black, minutely punctured, shining; basal segment slightly dilated, subconvex, its sides, as well as most of the petiole, fulvous; basal foveæ of second segment small, and deep; apical margins of the first six segments and the whole of the seventh, except two black dots, white, the band on the third segment interrupted in the middle. Length 5 lines; expanse of wings 8 lines.

Hab.—Pennsylvania. Mr. Jas. H. B. Bland.

6. *Isch. vinnulus*, n. sp.

Black; antennæ with a yellowish annulus; face, orbits, lateral margins of mesothorax, a spot on its disk, tegulæ, most of pectus, scutellum, an ill defined W on metathorax and the coxæ, whitish; part of the 3rd, 4th and 5th, and all of the remaining segments of the abdomen, and the femora, fulvous; wings hyaline.

Male.—Head black, the face, clypeus, mandibles, orbits, broad on the cheeks, and the palpi, white; antennæ porrect, three-fourths as long as the body, black above, brown beneath, the 16th to 24th joints yellowish, the basal joint beneath whitish. Thorax black, shining, feebly punctured, a quadrate spot on the disk of the mesothorax, the tegulæ, a sutural line before and a short line beneath the fore-wings, extending down the suture and meeting the large spot which covers the pleura beneath, a line above the anterior coxæ, a spot beneath the hind wings and an angular line immediately behind it, all whitish;

scutellum slightly convex, smooth and polished, pale yellowish-white, as well as a spot behind it; metathorax black, densely punctured, rather shining, a large white mark on its posterior face, somewhat resembling an ill-defined W, elevated lines tolerably distinct, central area small, quadrate. Wings hyaline, slightly iridescent, the extreme tips faintly fuliginous; nervures fuscous, pale at base, stigma pale brown; areolet 5-angular or subtriangular. Legs: coxæ and trochanters whitish; the posterior coxæ exteriorly, extreme tips of their femora and the apical half of their tibiæ, black; the anterior legs before, the basal half of the posterior tibiæ and their tarsi, yellowish; remainder of the legs fulvous, much paler on the two anterior pair and deeper on the posterior femora. Abdomen elongate, subcylindric, very slender at base; basal segment not much dilated at tip, black, smooth and polished, its extreme apex with a whitish band; the 2nd and 3rd segments finely punctured, shining, the basal two-thirds of the 2nd, and the basal half of two following segments not reaching the lateral margins, black, remainder of the segments fulvous, tinged with yellowish on the 2nd and 3rd, the former having a fulvous dot on each side of the basal third; beneath paler, the black bands of the upper surface showing through. Length 6 lines; expanse of wings 10 lines.

Hub.—Penusylvania. Mr. J. H. B. Bland.

7. *Isch. contiguus*, n. sp.

Black; antennæ with a yellowish annulus; clypeus, scutellum, a trilobed mark on metathorax, and the legs in part, yellowish; apical half of the 1st and 2nd abdominal segments, pale fulvous, remaining segments dull rufo-fulvous; wings hyaline.

Male.—Black, polished, clothed with a very short, fine, glittering pubescence; the clypeus, mandibles, palpi and the frontal orbits beneath the antennæ, broad beneath the eyes, yellowish-white; antennæ porrect, almost as long as the body, black, the 11th to 17th joints yellowish, the basal joint beneath whitish. Thorax glossy; the mesothorax with an impressed line on each side in front; the tegulæ, a spot before and a line beneath the wings, yellowish-white; scutellum slightly convex, polished, entirely yellowish-white, as well as a transverse spot behind, the carina on each side of the scutellum anteriorly is whitish behind; metathorax roughly punctured, black, with a large, transverse, trilobed, pale yellowish mark posteriorly, the middle lobe largest and

almost reaching the postscutellum ; the elevated lines and central area obsolete. Wings hyaline, with a faint yellowish gloss ; nervures fuscous pale testaceous at base, stigma pale brown ; areolet 5-angular. Legs : the two anterior pairs yellowish-fulvous ; the anterior coxæ, the intermediate pair above and a double line on the posterior pair behind, whitish ; the middle coxæ beneath, the posterior coxæ, their femora, except extreme base, and the apical third of their tibiæ, black ; the four anterior tibiæ, the basal two-thirds of the posterior pair, and all the tarsi, pale yellowish. Abdomen elongate, subcylindrical, very slender at base, polished ; basal segment with a small tubercle on each side before the apical third ; basal two-thirds of the first segment and the basal half of the two following segments, black ; apex of the first and apical half of the 2nd segments, pale fulvous ; remaining segments dull rufo-fulvous. Length 5 lines ; expanse of wings $9\frac{1}{2}$ lines.

Hab.—Maryland. E. T. Cresson.

At first sight this species closely resembles *Isch. vinnulus*, but the markings of the head and thorax are differently arranged. They are certainly distinct.

8. *Isch. W-album*, n. sp.

Black ; antennæ with a yellowish annulation : face, orbits, lateral margins of mesothorax and a spot on its disk, large spot on each side of pleura beneath, scutellum, W on metathorax and the coxæ, yellowish-white : abdomen, except 1st segment, and the femora pale fulvous ; wings hyaline.

Male.—Head black ; face, orbits, broad on the cheeks, clypeus, mandibles and palpi, yellowish-white ; antennæ more than half the length of the body, porrect, black above, pale brown beneath, the 17th to 24th joints, and the basal joint beneath yellowish. Thorax black, shining, feebly punctured, the mesothorax impressed on each side in front ; the collar above, a quadrate spot on the disk of the mesothorax, tegulæ, a sutural line before and a line beneath the fore wings, a large spot on each side of the pleura beneath, an oblique line on each side above the anterior coxæ and also a spot in front, a spot beneath each hind wing and another large transverse one behind, all yellowish-white ; scutellum rather convex, polished, entirely pale yellow, as well as a transverse spot behind it ; metathorax rather densely punctured, black, with a large, more or less distinct, W-shaped, yellowish-white mark, the elevated lines not well defined, the central area small and transverse.

Wings hyaline, faintly fuliginous at apical margins; nervures fuscous, pale at base, stigma pale brown; areolet 5-angular, slightly subtriangular. Legs pale fulvous; the coxæ except a large black spot on the outside of the posterior pair, whitish; the trochanters, the four anterior tibiæ in front and a band on the posterior tibiæ near their base, also whitish; extreme base of the posterior tibiæ as well as their apical half exteriorly, blackish. Abdomen elongate, subcylindric, slender at base, pale fulvous, darker towards the apex, shining, finely punctured; basal segment smooth and polished, black above and beneath, a triangular spot at its tip and its sides whitish; base of second segment depressed; beneath colored as above. Length 6 lines; expanse of wings 9 lines.

Hab.—Pennsylvania (C. A. Blake); Delaware (Dr. Wilson); New Jersey (Cresson).

9. *Isch. volens*, n. sp.

Yellowish-rufous: face, scutellum, two spots on metathorax, and the four anterior coxæ, yellowish; base of the 2nd and three following abdominal segments black; wings subhyaline.

Male.—Yellowish-rufous, shining, covered with a very short pale pubescence; the face beneath the antennæ, clypeus, spot on mandibles, palpi, and the outer orbits indistinctly, yellowish; the space immediately behind the base of the antennæ blackish; antennæ more than half the length of the body, porrect, yellowish-rufous, paler beneath, sometimes the 15th to 21st joints above are yellowish. Thorax dull rufous, sometimes brownish, finely punctured; the collar above, tegulæ, a spot before and a line beneath the wings yellowish; the pleura is stained with blackish along the sutures and beneath; scutellum rather convex, polished, as well as a short transverse line or two spots behind it, the space on each side is black; metathorax rather feebly punctured, shining, clothed behind with white pubescence, yellowish-rufous, its extreme sides black, and having two large yellowish spots behind, the elevated lines indistinct, the central area moderate, subquadrate, polished. Wings subhyaline, tinged with fuliginous; nervures fuscous, pale at base, stigma fulvous; areolet 5-angular or subtriangular. Legs yellowish-rufous; the four anterior coxæ and trochanters yellowish, the posterior tibiæ and tarsi obfuscated. Abdomen elongate, subcylindrical, slender at base, densely and finely punctured; basal segment smooth and polished; base of the 2nd and three following segments

above with a black transverse mark, broadest on the 2nd and narrowest on 5th segment, the black color not reaching the lateral margins; remaining segments entirely yellowish-rufous; apical segments shining. Length $6\frac{1}{2}$ lines; expanse of wings 10 lines.

Hab.—Virginia (Dr. Wilson); Illinois (Dr. Lewis).

10. *Isch. scitulus*, n. sp.

Blackish; face, orbits, annulus on antennæ, scutellum, coxæ and trochanters, yellowish; spot on pleura, most of metathorax and the abdomen, except base, pale rufous; wings hyaline, iridescent.

Male.—Head black; the face, clypeus, orbits, interrupted on each side near the summit, mandibles, except tips, and the palpi, pale yellowish; antennæ almost as long as the body, porrect, black, brown beneath, the 15th to 21st joints and the basal joint beneath, yellowish. Thorax black, tinged with brown above; collar above, tegulæ, a sutural line before and a short line beneath the fore-wing, a spot beneath the hind-wing, and an oblique line above the anterior coxæ, all yellowish; a transverse rufous mark on each side of the pleura; scutellum polished, yellowish, as well as a transverse spot behind it; metathorax finely punctured, profoundly impressed behind, pale rufous, its sides black and bilobed with black in front, on each side behind a small sub-obsolete yellowish spot. Wings hyaline, iridescent, the apical margins faintly tinged with fuliginous; nervures fuscous, pale at base, stigma blackish; areolet 5-angular. Legs: the four anterior coxæ, all the trochanters and the four anterior legs in front, yellowish-white; a spot on the four anterior femora behind, the posterior coxæ, their femora except extreme base, and the apical half of their tibiæ, black; remainder of the legs pale fulvous. Abdomen elongate, cylindric, slender at base, shining, dull rufous; basal segment linear, smooth and polished, black, its extreme apex rufous; basal half of the second segment depressed on each side. Length $3\frac{1}{2}$ lines; expanse of wings 6 lines.

Hab.—Illinois. Dr. Samuel Lewis.

11. *Isch. iridescens*, n. sp.

Yellow-rufous; antennæ black with a broad whitish annulation; face and tarsi whitish; apex of abdomen obfuscated; wings beautifully iridescent.

Male.—Yellowish-rufous, shining; face, frontal orbits, clypeus, spot on mandibles, space beneath the eyes and the palpi, whitish, the vertex and occiput piecous; antennæ more than half the length of the body,

black, the 10th to 15th joints whitish, the basal joint beneath pale fulvous. Thorax polished, the tegulæ whitish, the suture just beneath the wings and pleura beneath immediately behind the fore legs, blackish; scutellum slightly convex, dull rufous as well as a spot behind it, the space on each side blackish; metathorax minutely punctured, shining, yellowish-rufous, the elevated lines tolerably well defined, the central area small, rather elongate. Wings hyaline, beautifully iridescent, nervures and stigma pale fuscous, the former pale at base; areolet 5-angular. Legs yellowish-rufous, the four anterior coxæ and all the tarsi, whitish; extreme tips of the tarsi blackish. Abdomen slender at base, polished, yellowish-rufous, the three apical segments brownish. Length 3 lines; expanse of wings 5 lines.

Hab.—Delaware. Dr. Thos. B. Wilson.

12. *Isch. albitarsis*. n. sp.

Very slender, black: most of the face, scutellum and tarsi, whitish; abdomen rufous; wings hyaline.

Male.—Very slender, black, shining; face: the inner orbits, broad beneath the antennæ, a bilobed spot just beneath the antennæ, most of the clypeus, a spot on each mandible, and the palpi, whitish; antennæ slender, about as long as the body, black, the basal joint beneath with a white spot. Thorax finely punctured; the tegulæ, a sutural line before and a short line beneath the fore-wing, the collar above and a spot on each side of the pleura just above the anterior coxa, whitish; scutellum slightly convex, polished, black, with a rather large whitish spot, and a short transverse whitish line behind it; metathorax black, finely and densely punctured, truncate behind, the elevated lines not well defined, the central area rather large, subquadrate, obsolete defined. Wings hyaline, faintly tinged with fuliginous, slightly iridescent; nervures fuscous, pale at base, stigma black; areolet 5-angular or subtriangular. Legs black, the four anterior coxæ and trochanters beneath, their femora, tibiæ and tarsi before and the posterior tarsi, except base and extreme apex, whitish. Abdomen elongate, slender, cylindric, polished, rufous, the apex slightly blackish; basal segment linear, with a slight tubercle on each side behind the middle. Length $4\frac{1}{2}$ –5 lines; expanse of wings 6–7 lines.

Hab.—Illinois. Dr. Samuel Lewis.

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